

61835-1.ST25.txt  
SEQUENCE LISTING

<110> Vanaja, Donkena Krishna  
Young, Charles Y.F.

<120> Methods And Compositions For Diagnosis, Staging and Prognosis of  
Prostate Cancer

<130> 61835-2

<140> US

<141> 2004-07-14

<150> US 60/487,553

<151> 2003-07-14

<160> 52

<170> PatentIn version 3.2

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<221> CDS

<222> (41)..(1399)

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Ala Pro Arg Glu His Ser Tyr Val Leu Ser Ala Ala Lys Lys Ser Thr  
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Ala Leu Ala Arg Ser Thr Pro Gly Ser Asn Ser Ser Arg Gly Glu Glu  
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 Pro Thr Arg Val Gly Glu Ala Trp Gln Glu Arg Pro Gly Ala Pro Arg  
 180 185 190  
 Gly Gly Gln Gly Asp Pro Ala Val Pro Ala Gln Gln Pro Ala Asp Pro  
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 Ser Thr Pro Glu Arg Gln Ser Ser Pro Ser Gly Ser Glu Gln Leu Val  
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Tyr Cys Phe Lys Cys Gly Ile Cys Ser Lys Pro Met Gly Asp Leu Leu  
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&lt;223&gt; 2M forward primer

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&lt;212&gt; DNA

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&lt;223&gt; 2M reverse primer

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Val Val Ile Phe Ala Thr Phe Val Thr Leu Cys Asn Ala Ser Cys Tyr  
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Phe Ile Pro Asn Glu Gly Val Pro Gly Asp Ser Thr Arg Lys Cys Met  
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Lys Lys Thr Cys Ser Val Glu Trp Ile Ile  
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Thr Glu Ile Ser Cys Cys Thr Leu Val Ser Thr Pro Val Gly Tyr Asp  
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## 61835-1.ST25.txt

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## 61835-1.ST25.txt

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<220>  
 <221> CDS  
 <222> (191)..(2641)

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atcttcccac caccttaaac cactgagcag ttcagagccc cagttgcaga cgacttgtcc 180
tgccaccacc atg agt tct gaa tgt gat ggt ggt tcc aaa gct gtg atg 229
          Met Ser Ser Glu Cys Asp Gly Gly Ser Lys Ala Val Met
          1          5          10

aat ggc ttg gca cct ggc agc aat ggg caa gac aaa gac atg gat cct 277
Asn Gly Leu Ala Pro Gly Ser Asn Gly Gln Asp Lys Asp Met Asp Pro
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Thr Lys Ile Cys Thr Gly Lys Gly Ala Val Thr Leu Arg Ala Ser Ser
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tcc tac agg gaa acc cca agc agt agc cct gcg agc cct cag gaa acc 373
Ser Tyr Arg Glu Thr Pro Ser Ser Ser Pro Ala Ser Pro Gln Glu Thr
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Arg Gln His Glu Ser Lys Pro Gly Leu Glu Pro Glu Pro Ser Ser Ala

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cct tct gac aag tcc cag gat gcc act tcc tcc agt gca gcc cag ccg Pro Ser Asp Lys Ser Gln Asp Ala Thr Ser Ser Ser Ala Ala Gln Pro 110 115 120 125			565
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gaa ggc act gcc aga cct cca aca cct ctg ggg cct ctt ggc tgc gtc Glu Gly Thr Ala Arg Pro Pro Thr Pro Leu Gly Pro Leu Gly Cys Val 145 150 155			661
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cga gaa cag caa aaa cga ctc agt agc ctt tca gat cct gtc tca gaa Arg Glu Gln Gln Lys Arg Leu Ser Ser Leu Ser Asp Pro Val Ser Glu 290 295 300			1093
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tca cct ggc aag gct att gaa aaa aga gca aag gat gac agt agg cgg Ser Pro Gly Lys Ala Ile Glu Lys Arg Ala Lys Asp Asp Ser Arg Arg 320 325 330 335			1189

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Gly Ile Pro Leu Arg Asn Thr Glu Arg Ser Lys Asp Trp Tyr Lys Thr			
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Met Phe Lys Gln Ile His Lys Leu Asn Arg Asp Asp Asp Ser Asp Leu			
370	375	380	
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Tyr Ser Pro Arg Tyr Ser Phe Ser Glu Asp Thr Lys Ser Pro Leu Ser			
385	390	395	
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Val Pro Arg Ser Lys Ser Glu Met Ser Tyr Ile Asp Gly Glu Lys Val			
400	405	410	
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Val Lys Arg Ser Ala Thr Leu Pro Leu Pro Ala Arg Ser Ser Ser Leu			
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Lys Ser Ser Ser Glu Arg Asn Asp Trp Glu Pro Pro Asp Lys Lys Val			
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450	455	460	
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Pro Gly Lys Ser Val Leu Thr Asn Glu Lys Met Ser Ser Ala Ile			
465	470	475	
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Ser Pro Thr Pro Glu Ile Ser Ser Glu Thr Pro Gly Tyr Ile Tyr Ser			
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Ala Asp Tyr Leu Glu Ser Thr Glu Glu Phe Ile Arg Arg Arg His Asp			
560	565	570	
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Asp Lys Glu Met Arg Pro Ala Arg Ala Lys Phe Asp Phe Lys Ala Gln			

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Ala Gln Pro Lys Lys Leu Thr Pro Val Gln Val Leu Glu Tyr Gly Glu			
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Phe Arg Lys Gly Glu Arg Ile Thr Leu Leu Arg Gln Val Asp Glu Asn			
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	735	740	745
agg agt caa acc tca caa gat tta ttt agc tat caa gca tta tat agc			2485
Arg Ser Gln Thr Ser Gln Asp Leu Phe Ser Tyr Gln Ala Leu Tyr Ser			
	750	755	760
tat ata cca cag aat gat gat gag ttg gaa ctc cgc gat gga gat atc			2533
Tyr Ile Pro Gln Asn Asp Asp Glu Leu Glu Leu Arg Asp Gly Asp Ile			
	770	775	780
gtt gat gtc atg gaa aaa tgt gac gat gga tgg ttt gtt ggt act tca			2581
Val Asp Val Met Glu Lys Cys Asp Asp Gly Trp Phe Val Gly Thr Ser			
	785	790	795
aga agg aca aag cag ttt ggt act ttt cca ggc aac tat gta aaa cct			2629
Arg Arg Thr Lys Gln Phe Gly Thr Phe Pro Gly Asn Tyr Val Lys Pro			
	800	805	810
ttg tat cta taa gaagactgaa aaccatggag attattttta ttggaggagg			2681
Leu Tyr Leu			
815			
aagcatcatt catgaaccga tcttttttagt tgagtcagta ggaaaattaa tacagtggat			2741

## 61835-1.ST25.txt

aaagtaagaa gcaaaagaca gggacagaga agtgtgtgtgt ttaaaaccca agcctgtcta	2801
aggttactgt gtattagaca gggccgaact agtgtgctga gcaaaaagaa ttgaagcaaa	2861
ttgtatttac ttagccgctt ctgggagcca cttcagcctt tccccctccc tccacttctt	2921
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cccagcctta gagagctccc atctcaatca ttgagcctga aggcttcaag cccaagaatg	3041
caacaagacc cccagcctac atttctcagc tccccctggag ccagctgac ctgtaacgct	3101
gctggagggtc agtctgagct accaagactg tccctagaca aagggtggagt cccccacact	3161
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agagagaaac gcacacaagg tttgcccattg agaattgggg agcagatggc caagcagata	3341
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tggttcattc ttttcccata tccttggtt ttagaaatgg ttaccttcag gacagtgcag	3461
ctgcatttat cagagcacta ttgctaagtt ttcttttctg gcttgtgttt ttctgggaca	3521
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tccacagac atttgttttt aagtatgaca gagcaggggc ttaatcccaa gggaaaagg	4601
tatggaactg gagggggtga gctttctggg tagaaggaga cttcctgaat ttccttaaaa	4661

## 61835-1.ST25.txt

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cccagtaaga gtaagacctg ttgttttgga aggtctgctc caccatctaa gagcactggt 4721
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cacgtcgctt tcctatgtat gacgaaacaa gaaacagaga tttccaattg ctcttttgtc 5141
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gtggcaaaaa aaaaaaaaaa aa 5943

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<210> 33  
 <211> 816  
 <212> PRT  
 <213> homo sapiens

<400> 33

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Ala Pro Gly Ser Asn Gly Gln Asp Lys Asp Met Asp Pro Thr Lys Ile  
 20 25 30

Cys Thr Gly Lys Gly Ala Val Thr Leu Arg Ala Ser Ser Ser Tyr Arg  
 35 40 45

## 61835-1.ST25.txt

Glu Thr Pro Ser Ser Ser Pro Ala Ser Pro Gln Glu Thr Arg Gln His  
 50 55 60  
 Glu Ser Lys Pro Gly Leu Glu Pro Glu Pro Ser Ser Ala Asp Glu Trp  
 65 70 75 80  
 Arg Leu Ser Ser Ser Ala Asp Ala Asn Gly Asn Ala Gln Pro Ser Ser  
 85 90 95  
 Leu Ala Ala Lys Gly Tyr Arg Ser Val His Pro Asn Leu Pro Ser Asp  
 100 105 110  
 Lys Ser Gln Asp Ala Thr Ser Ser Ser Ala Ala Gln Pro Glu Val Ile  
 115 120 125  
 Val Val Pro Leu Tyr Leu Val Asn Thr Asp Arg Gly Gln Glu Gly Thr  
 130 135 140  
 Ala Arg Pro Pro Thr Pro Leu Gly Pro Leu Gly Cys Val Pro Thr Ile  
 145 150 155 160  
 Pro Ala Thr Ala Ser Ala Ala Ser Pro Leu Thr Phe Pro Thr Leu Asp  
 165 170 175  
 Asp Phe Ile Pro Pro His Leu Gln Arg Trp Pro His His Ser Gln Pro  
 180 185 190  
 Ala Arg Ala Ser Gly Ser Phe Ala Pro Ile Ser Gln Thr Pro Pro Ser  
 195 200 205  
 Phe Ser Pro Pro Pro Pro Leu Val Pro Pro Ala Pro Glu Asp Leu Arg  
 210 215 220  
 Arg Val Ser Glu Pro Asp Leu Thr Gly Ala Val Ser Ser Thr Asp Ser  
 225 230 235 240  
 Ser Pro Leu Leu Asn Glu Val Ser Ser Ser Leu Ile Gly Thr Asp Ser  
 245 250 255  
 Gln Ala Phe Pro Ser Val Ser Lys Pro Ser Ser Ala Tyr Pro Ser Thr  
 260 265 270  
 Thr Ile Val Asn Pro Thr Ile Val Leu Leu Gln His Asn Arg Glu Gln  
 275 280 285  
 Gln Lys Arg Leu Ser Ser Leu Ser Asp Pro Val Ser Glu Arg Arg Val  
 290 295 300

## 61835-1.ST25.txt

Gly Glu Gln Asp Ser Ala Pro Thr Gln Glu Lys Pro Thr Ser Pro Gly  
 305 310 315 320  
 Lys Ala Ile Glu Lys Arg Ala Lys Asp Asp Ser Arg Arg Val Val Lys  
 325 330 335  
 Ser Thr Gln Asp Leu Ser Asp Val Ser Met Asp Glu Val Gly Ile Pro  
 340 345 350  
 Leu Arg Asn Thr Glu Arg Ser Lys Asp Trp Tyr Lys Thr Met Phe Lys  
 355 360 365  
 Gln Ile His Lys Leu Asn Arg Asp Asp Asp Ser Asp Leu Tyr Ser Pro  
 370 375 380  
 Arg Tyr Ser Phe Ser Glu Asp Thr Lys Ser Pro Leu Ser Val Pro Arg  
 385 390 395 400  
 Ser Lys Ser Glu Met Ser Tyr Ile Asp Gly Glu Lys Val Val Lys Arg  
 405 410 415  
 Ser Ala Thr Leu Pro Leu Pro Ala Arg Ser Ser Ser Leu Lys Ser Ser  
 420 425 430  
 Ser Glu Arg Asn Asp Trp Glu Pro Pro Asp Lys Lys Val Asp Thr Arg  
 435 440 445  
 Lys Tyr Arg Ala Glu Pro Lys Ser Ile Tyr Glu Tyr Gln Pro Gly Lys  
 450 455 460  
 Ser Ser Val Leu Thr Asn Glu Lys Met Ser Ser Ala Ile Ser Pro Thr  
 465 470 475 480  
 Pro Glu Ile Ser Ser Glu Thr Pro Gly Tyr Ile Tyr Ser Ser Asn Phe  
 485 490 495  
 His Ala Val Lys Arg Glu Ser Asp Gly Ala Pro Gly Asp Leu Thr Ser  
 500 505 510  
 Leu Glu Asn Glu Arg Gln Ile Tyr Lys Ser Val Leu Glu Gly Gly Asp  
 515 520 525  
 Ile Pro Leu Gln Gly Leu Ser Gly Leu Lys Arg Pro Ser Ser Ser Ala  
 530 535 540  
 Ser Thr Lys Asp Ser Glu Ser Pro Arg His Phe Ile Pro Ala Asp Tyr  
 545 550 555 560



## 61835-1.ST25.txt

Leu Glu Ser Thr Glu Glu Phe Ile Arg Arg Arg His Asp Asp Lys Glu  
 565 570 575

Met Arg Pro Ala Arg Ala Lys Phe Asp Phe Lys Ala Gln Thr Leu Lys  
 580 585 590

Glu Leu Pro Leu Gln Lys Gly Asp Ile Val Tyr Ile Tyr Lys Gln Ile  
 595 600 605

Asp Gln Asn Trp Tyr Glu Gly Glu His His Gly Arg Val Gly Ile Phe  
 610 615 620

Pro Arg Thr Tyr Ile Glu Leu Leu Pro Pro Ala Glu Lys Ala Gln Pro  
 625 630 635 640

Lys Lys Leu Thr Pro Val Gln Val Leu Glu Tyr Gly Glu Ala Ile Ala  
 645 650 655

Lys Phe Asn Phe Asn Gly Asp Thr Gln Val Glu Met Ser Phe Arg Lys  
 660 665 670

Gly Glu Arg Ile Thr Leu Leu Arg Gln Val Asp Glu Asn Trp Tyr Glu  
 675 680 685

Gly Arg Ile Pro Gly Thr Ser Arg Gln Gly Ile Phe Pro Ile Thr Tyr  
 690 695 700

Val Asp Val Ile Lys Arg Pro Leu Val Lys Asn Pro Val Asp Tyr Met  
 705 710 715 720

Asp Leu Pro Phe Ser Ser Ser Pro Ser Arg Ser Ala Thr Ala Ser Pro  
 725 730 735

Gln Gln Pro Gln Ala Gln Gln Arg Arg Val Thr Pro Asp Arg Ser Gln  
 740 745 750

Thr Ser Gln Asp Leu Phe Ser Tyr Gln Ala Leu Tyr Ser Tyr Ile Pro  
 755 760 765

Gln Asn Asp Asp Glu Leu Glu Leu Arg Asp Gly Asp Ile Val Asp Val  
 770 775 780

Met Glu Lys Cys Asp Asp Gly Trp Phe Val Gly Thr Ser Arg Arg Thr  
 785 790 795 800

Lys Gln Phe Gly Thr Phe Pro Gly Asn Tyr Val Lys Pro Leu Tyr Leu  
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## 61835-1.ST25.txt

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 <212> DNA  
 <213> homo sapiens

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 catcccttta atagcttccc ggcctcacga gtgttgaaatg acatgacgaa ttctccttca 120  
 tagaagggtac aggtgaacca gaactggagg ggcatttgagg atccttcctt cttcagaaaag 180  
 tgcgatcgca tcaagatgca tgtgggtttc agtagaactg gcccatgttt cttgggagcg 240  
 aggtgtccaa accactgttc atccatattt cctgaatgat ttgctccctg cgctcaatcc 300  
 tttctgagag ctctgcagct tctatggaac tgtatatagg atatgaagtc ctacagaacc 360  
 cagacagttc ccctgggaaa tcagactcag aggggtcctc ctctcttct tcatcctcgc 420  
 tgtctctctc gaccttgta cttcctggca ccagctgctc cctccccagc tgcaagtcgc 480  
 ggaagtcctt ggcacaggac tctctgatga ccagggcgca cagtgtgagg gccaggccga 540  
 tgcagacact ggacacgaac agcagggcag ct 572

<210> 35  
 <211> 5678  
 <212> DNA  
 <213> homo sapiens

<220>  
 <221> CDS  
 <222> (101)..(5467)

<400> 35  
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 aagacaaatc tttgaaccaa agaagaaaga attcttagaa atg aaa aga aaa gaa 115  
 Met Lys Arg Lys Glu  
 1 5  
 aga att gcc agg cgc ctg gaa ggg att gaa aat gac act cag ccc atc 163  
 Arg Ile Ala Arg Arg Leu Glu Gly Ile Glu Asn Asp Thr Gln Pro Ile  
 10 15 20  
 ctc ttg cag agc tgc aca gga ttg gtg act cac cgc ctg ctg gag gaa 211  
 Leu Leu Gln Ser Cys Thr Gly Leu Val Thr His Arg Leu Leu Glu Glu  
 25 30 35  
 gac acc cct cga tac atg aga gcc agc gac cct gcc agc ccc cac atc 259  
 Asp Thr Pro Arg Tyr Met Arg Ala Ser Asp Pro Ala Ser Pro His Ile  
 40 45 50  
 ggc cga tca aat gaa gag gag gaa act tct gat tct tct cta gaa aag 307  
 Gly Arg Ser Asn Glu Glu Glu Glu Thr Ser Asp Ser Ser Leu Glu Lys  
 55 60 65  
 caa act cga tcc aaa tac tgc aca gaa acc tcc ggt gtc cac ggt gac 355  
 Gln Thr Arg Ser Lys Tyr Cys Thr Glu Thr Ser Gly Val His Gly Asp  
 70 75 80 85

61835-1.ST25.txt

tca ccc tat ggt tcg ggt acc atg gac acc cac agt ctg gag tcc aaa	403
Ser Pro Tyr Gly Ser Gly Thr Met Asp Thr His Ser Leu Glu Ser Lys	
90 95 100	
gcc gaa aga att gca agg tac aaa gca gaa aga agg cga cag ctg gca	451
Ala Glu Arg Ile Ala Arg Tyr Lys Ala Glu Arg Arg Arg Gln Leu Ala	
105 110 115	
gag aag tat ggg ctg act ctg gat ccc gag gcc gac tcc gag tat tta	499
Glu Lys Tyr Gly Leu Thr Leu Asp Pro Glu Ala Asp Ser Glu Tyr Leu	
120 125 130	
tcc cgc tat acc aag tcc agg aag gag cct gat gct gtc gag aag cgg	547
Ser Arg Tyr Thr Lys Ser Arg Lys Glu Pro Asp Ala Val Glu Lys Arg	
135 140 145	
gga gga aaa agt gac aaa cag gaa gag tca agc aga gat gck agt tct	595
Gly Gly Lys Ser Asp Lys Gln Glu Glu Ser Ser Arg Asp Ala Ser Ser	
150 155 160 165	
ctg tac ccc ggg acc gag acg atg ggg ctc agg acc tgt gcc ggt gaa	643
Leu Tyr Pro Gly Thr Glu Thr Met Gly Leu Arg Thr Cys Ala Gly Glu	
170 175 180	
tcc aag gac tat gcc ctc cat gtg ggt gac ggc tct tcc gac ccg gag	691
Ser Lys Asp Tyr Ala Leu His Val Gly Asp Gly Ser Ser Asp Pro Glu	
185 190 195	
gtg ctg ctg aac ata gaa aac caa aga cga ggt caa gag ctg agt gcc	739
Val Leu Leu Asn Ile Glu Asn Gln Arg Arg Gly Gln Glu Leu Ser Ala	
200 205 210	
acc cgg cag gcc cat gac ctg tcc cca gca gcc gag agt tcc tcg acc	787
Thr Arg Gln Ala His Asp Leu Ser Pro Ala Ala Glu Ser Ser Ser Thr	
215 220 225	
ttc tct ttc tct ggg cga gac tcc tcc ttc act gaa gtg cca cgg tcc	835
Phe Ser Phe Ser Gly Arg Asp Ser Ser Phe Thr Glu Val Pro Arg Ser	
230 235 240 245	
ccc aag cac gcc cac agc tcc tcc ctg cag cag gca gcc tcc cgg agc	883
Pro Lys His Ala His Ser Ser Ser Leu Gln Gln Ala Ala Ser Arg Ser	
250 255 260	
ccc tcc ttt ggt gac cca cag cta tcc cct gag gcc cga ccc agg tgc	931
Pro Ser Phe Gly Asp Pro Gln Leu Ser Pro Glu Ala Arg Pro Arg Cys	
265 270 275	
act tca cat tca gaa acg cca act gtc gat gat gaa gaa aag gtg gat	979
Thr Ser His Ser Glu Thr Pro Thr Val Asp Asp Glu Glu Lys Val Asp	
280 285 290	
gaa cga gcc aag ctg agc gtc gcc gcc aag agg ttg ctt ttc agg gag	1027
Glu Arg Ala Lys Leu Ser Val Ala Ala Lys Arg Leu Leu Phe Arg Glu	
295 300 305	
atg gaa aaa tct ttt gat gaa caa aat gtt cca aag cga cgc tca aga	1075
Met Glu Lys Ser Phe Asp Glu Gln Asn Val Pro Lys Arg Arg Ser Arg	
310 315 320 325	
aac aca gct gtg gag cag agg cta cgc cgt ctg cag gac agg tcc ctc	1123
Asn Thr Ala Val Glu Gln Arg Leu Arg Arg Leu Gln Asp Arg Ser Leu	
330 335 340	

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acc cag ccc atc acc act gaa gag	gtg gtc atc gca gcc aca ttg cag	1171
Thr Gln Pro Ile Thr Thr Glu Glu	Val Val Ile Ala Ala Thr Leu Gln	
345	350 355	
gcc tct gct cac caa aag gcc tta gcc aag gac cag aca aat gag ggc	1219	
Ala Ser Ala His Gln Lys Ala Leu Ala Lys Asp Gln Thr Asn Glu Gly		
360	365 370	
aaa gag ctt gct gag caa gga gaa cct gat tcc tcc act cta agc ttg	1267	
Lys Glu Leu Ala Glu Gln Gly Glu Pro Asp Ser Ser Thr Leu Ser Leu		
375	380 385	
gcc gaa aag ttg gcc ttg ttt aac aaa ttg tcc cag cca gtc tca aaa	1315	
Ala Glu Lys Leu Ala Leu Phe Asn Lys Leu Ser Gln Pro Val Ser Lys		
390	395 400 405	
gcg att tct acc cgg aac aga ata gac acg aga cag agg aga atg aac	1363	
Ala Ile Ser Thr Arg Asn Arg Ile Asp Thr Arg Gln Arg Arg Met Asn		
410	415 420	
gct cgc tat caa act cag cca gtc aca ctg gga gag gtg gag cag gtg	1411	
Ala Arg Tyr Gln Thr Gln Pro Val Thr Leu Gly Glu Val Glu Gln Val		
425	430 435	
cag agt gga aag ctc att cct ttc tca cct gcc gtg aac aca tca gtg	1459	
Gln Ser Gly Lys Leu Ile Pro Phe Ser Pro Ala Val Asn Thr Ser Val		
440	445 450	
tct acc gta gca tcc acg gtt gct cca atg tat gcc gga gat ctt cgc	1507	
Ser Thr Val Ala Ser Thr Val Ala Pro Met Tyr Ala Gly Asp Leu Arg		
455	460 465	
aca aag cca cct ctt gac cac aat gca agt gcc act gac tat aag ttt	1555	
Thr Lys Pro Pro Leu Asp His Asn Ala Ser Ala Thr Asp Tyr Lys Phe		
470	475 480 485	
tct tct tca ata gaa aat tcg gac tct cca gtt aga agc att ctg aaa	1603	
Ser Ser Ser Ile Glu Asn Ser Asp Ser Pro Val Arg Ser Ile Leu Lys		
490	495 500	
tcg caa gct tgg cag cct ttg gta gag ggt agc gag aac aag gga atg	1651	
Ser Gln Ala Trp Gln Pro Leu Val Glu Gly Ser Glu Asn Lys Gly Met		
505	510 515	
ttg aga gaa tat gga gag aca gaa agc aag aga gct ttg aca ggt cga	1699	
Leu Arg Glu Tyr Gly Glu Thr Glu Ser Lys Arg Ala Leu Thr Gly Arg		
520	525 530	
gac agt ggg atg gag aag tat ggg tcc ttt gag gaa gca gaa gca tcc	1747	
Asp Ser Gly Met Glu Lys Tyr Gly Ser Phe Glu Glu Ala Glu Ala Ser		
535	540 545	
tac ccc atc ctg aac cga gcc agg gaa gga gac agc cat aag gaa tct	1795	
Tyr Pro Ile Leu Asn Arg Ala Arg Glu Gly Asp Ser His Lys Glu Ser		
550	555 560 565	
aaa tat gct gtt ccc aga aga gga agc ctg gaa cgg gcg aac cct ccc	1843	
Lys Tyr Ala Val Pro Arg Arg Gly Ser Leu Glu Arg Ala Asn Pro Pro		
570	575 580	
atc acc cac ctc ggg gat gaa ccg aag gaa ttt tcc atg gct aaa atg	1891	
Ile Thr His Leu Gly Asp Glu Pro Lys Glu Phe Ser Met Ala Lys Met		
585	590 595	

## 61835-1.ST25.txt

aat gca caa gga aac ttg gac ttg agg gac agg ctg ccc ttt gaa gag	1939
Asn Ala Gln Gly Asn Leu Asp Leu Arg Asp Arg Leu Pro Phe Glu Glu	
600 605 610	
aag gtg gag gtg gag aat gtt atg aaa agg aag ttt tca cta aga gcg	1987
Lys Val Glu Val Glu Asn Val Met Lys Arg Lys Phe Ser Leu Arg Ala	
615 620 625	
gca gag ttc ggg gag ccc act tcc gag cag acg ggg aca gct gct ggg	2035
Ala Glu Phe Gly Glu Pro Thr Ser Glu Gln Thr Gly Thr Ala Ala Gly	
630 635 640 645	
aaa act att gct caa acc aca gcc ccc gtg tcc tgg aag ccc cag gat	2083
Lys Thr Ile Ala Gln Thr Thr Ala Pro Val Ser Trp Lys Pro Gln Asp	
650 655 660	
tct tcg gaa cag cca cag gag aag ctc tgc aag aat cca tgt gcg atg	2131
Ser Ser Glu Gln Pro Gln Glu Lys Leu Cys Lys Asn Pro Cys Ala Met	
665 670 675	
ttt gct gct gga gag atc aaa acg ccg aca ggg gag ggc ctt ctt gac	2179
Phe Ala Ala Gly Glu Ile Lys Thr Pro Thr Gly Glu Gly Leu Leu Asp	
680 685 690	
tca ccc agc aaa acc atg tct att aaa gaa aga ttg gca ctg ttg aag	2227
Ser Pro Ser Lys Thr Met Ser Ile Lys Glu Arg Leu Ala Leu Leu Lys	
695 700 705	
aaa agc ggg gag gaa gat tgg aga aac aga ctc agc agg agg cag gag	2275
Lys Ser Gly Glu Glu Asp Trp Arg Asn Arg Leu Ser Arg Arg Gln Glu	
710 715 720 725	
ggc ggc aag gcg ccg gcc agc agc ctg cac acc cag gaa gca ggg cgg	2323
Gly Gly Lys Ala Pro Ala Ser Ser Leu His Thr Gln Glu Ala Gly Arg	
730 735 740	
tcc ctc atc aag aag cgg gtc aca gaa agt cga gag agc caa atg acg	2371
Ser Leu Ile Lys Lys Arg Val Thr Glu Ser Arg Glu Ser Gln Met Thr	
745 750 755	
att gag gag agg aag cag ctc atc act gtg aga gag gag gcc tgg aag	2419
Ile Glu Glu Arg Lys Gln Leu Ile Thr Val Arg Glu Glu Ala Trp Lys	
760 765 770	
acg aga ggc aga gga gcg gcc aac gac tcg acc cag ttc act gtg gct	2467
Thr Arg Gly Arg Gly Ala Ala Asn Asp Ser Thr Gln Phe Thr Val Ala	
775 780 785	
ggc agg atg gtg aag aaa ggt ttg gcg tca cct act gcc ata acc cca	2515
Gly Arg Met Val Lys Lys Gly Leu Ala Ser Pro Thr Ala Ile Thr Pro	
790 795 800 805	
gta gcc tca gcc att tgc ggt aaa aca aga ggc acc aca ccc gtt tcc	2563
Val Ala Ser Ala Ile Cys Gly Lys Thr Arg Gly Thr Thr Pro Val Ser	
810 815 820	
aaa ccc ctg gaa gat atc gaa gcc aga cca gat atg cag tta gaa tcg	2611
Lys Pro Leu Glu Asp Ile Glu Ala Arg Pro Asp Met Gln Leu Glu Ser	
825 830 835	
gac ctg aag ttg gac agg ctg gaa acc ttt cta aga agg ctg aat aac	2659
Asp Leu Lys Leu Asp Arg Leu Glu Thr Phe Leu Arg Arg Leu Asn Asn	
840 845 850	

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aaa gtt ggc ggg atg cac gaa acg gtg ctc act gtc acc ggc aaa tct	2707
Lys Val Gly Gly Met His Glu Thr Val Leu Thr Val Thr Gly Lys Ser	
855 860 865	
gtg aag gag gtg atg aag cca gat gat gat gaa acc ttt gcc aaa ttt	2755
Val Lys Glu Val Met Lys Pro Asp Asp Asp Glu Thr Phe Ala Lys Phe	
870 875 880 885	
tac cgc agc gtg gat tat aat atg cca aga agt cct gtg gag atg gat	2803
Tyr Arg Ser Val Asp Tyr Asn Met Pro Arg Ser Pro Val Glu Met Asp	
890 895 900	
gag gac ttc gat gtc att ttc gat cct tat gca ccc aaa ttg acg tct	2851
Glu Asp Phe Asp Val Ile Phe Asp Pro Tyr Ala Pro Lys Leu Thr Ser	
905 910 915	
tcc gtg gcc gag cac aag cgg gca gtt agg ccc aag cgc cgg gtt cag	2899
Ser Val Ala Glu His Lys Arg Ala Val Arg Pro Lys Arg Arg Val Gln	
920 925 930	
gcc tcc aaa aac ccc ctg aaa atg ctg gcg gca aga gaa gat ctc ctt	2947
Ala Ser Lys Asn Pro Leu Lys Met Leu Ala Ala Arg Glu Asp Leu Leu	
935 940 945	
cag gaa tac act gag cag aga tta aac gtt gcc ttc atg gag tca aag	2995
Gln Glu Tyr Thr Glu Gln Arg Leu Asn Val Ala Phe Met Glu Ser Lys	
950 955 960 965	
cgg atg aaa gta gaa aag atg tct tcc aac tcc aac ttc tca gaa gtc	3043
Arg Met Lys Val Glu Lys Met Ser Ser Asn Ser Asn Phe Ser Glu Val	
970 975 980	
acc ctg gcg ggt tta gcc agt aaa gaa aac ttc agc aac gtc agc ctg	3091
Thr Leu Ala Gly Leu Ala Ser Lys Glu Asn Phe Ser Asn Val Ser Leu	
985 990 995	
cgg agc gtc aac ctg acg gaa cag aac tct aac aac agc gcc gtg	3136
Arg Ser Val Asn Leu Thr Glu Gln Asn Ser Asn Asn Ser Ala Val	
1000 1005 1010	
ccc tac aag agg ctg atg ctg ttg cag att aaa gga aga aga cat	3181
Pro Tyr Lys Arg Leu Met Leu Leu Gln Ile Lys Gly Arg Arg His	
1015 1020 1025	
gtg cag acc agg ctg gtg gaa cct cga gct tcg gcg ctc aac agt	3226
Val Gln Thr Arg Leu Val Glu Pro Arg Ala Ser Ala Leu Asn Ser	
1030 1035 1040	
ggg gac tgc ttc ctc ctg ctc tct ccc cac tgc tgc ttc ctg tgg	3271
Gly Asp Cys Phe Leu Leu Leu Ser Pro His Cys Cys Phe Leu Trp	
1045 1050 1055	
gta gga gag ttt gca aac gtc ata gaa aag gcg aag gcc tca gaa	3316
Val Gly Glu Phe Ala Asn Val Ile Glu Lys Ala Lys Ala Ser Glu	
1060 1065 1070	
ctt gca act tta att cag aca aag agg gaa ctt ggt tgt aga gct	3361
Leu Ala Thr Leu Ile Gln Thr Lys Arg Glu Leu Gly Cys Arg Ala	
1075 1080 1085	
act tat atc caa acc att gaa gaa gga att aat aca cac act cat	3406
Thr Tyr Ile Gln Thr Ile Glu Glu Gly Ile Asn Thr His Thr His	
1090 1095 1100	

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gca gcc aaa gac ttc tgg aag ctt	ctg ggt ggc caa acc agt tac	3451
Ala Ala Lys Asp Phe Trp Lys Leu	Leu Gly Gly Gln Thr Ser Tyr	
1105	1110 1115	
caa tct gct gga gac cca aaa gaa	gat gaa ctc tat gaa gca gcc	3496
Gln Ser Ala Gly Asp Pro Lys Glu	Asp Glu Leu Tyr Glu Ala Ala	
1120	1125 1130	
ata ata gaa act aac tgc att tac	cgt ctc atg gat gac aaa ctt	3541
Ile Ile Glu Thr Asn Cys Ile Tyr	Arg Leu Met Asp Asp Lys Leu	
1135	1140 1145	
gtt cct gat gac gac tac tgg ggg	aaa att ccg aag tgc tcc ctt	3586
Val Pro Asp Asp Asp Tyr Trp Gly	Lys Ile Pro Lys Cys Ser Leu	
1150	1155 1160	
ctg caa ccc aaa gag gta ctg gtg	ttt gat ttt ggt agt gaa gtt	3631
Leu Gln Pro Lys Glu Val Leu Val	Phe Asp Phe Gly Ser Glu Val	
1165	1170 1175	
tac gta tgg cat ggg aaa gaa gtc	aca tta gca caa cga aaa ata	3676
Tyr Val Trp His Gly Lys Glu Val	Thr Leu Ala Gln Arg Lys Ile	
1180	1185 1190	
gca ttt cag ctg gca aag cac tta	tgg aat gga acc ttt gac tat	3721
Ala Phe Gln Leu Ala Lys His Leu	Trp Asn Gly Thr Phe Asp Tyr	
1195	1200 1205	
gag aac tgt gac atc aat ccc ctg	gat cct gga gaa tgc aat ccg	3766
Glu Asn Cys Asp Ile Asn Pro Leu	Asp Pro Gly Glu Cys Asn Pro	
1210	1215 1220	
ctt atc ccc aga aaa gga cag ggg	cgg ccc gac tgg gcg ata ttt	3811
Leu Ile Pro Arg Lys Gly Gln Gly	Arg Pro Asp Trp Ala Ile Phe	
1225	1230 1235	
ggg aga ctt act gaa cac aat gag	acg att ttg ttc aaa gag aag	3856
Gly Arg Leu Thr Glu His Asn Glu	Thr Ile Leu Phe Lys Glu Lys	
1240	1245 1250	
ttt ctg gat tgg acg gaa ctg aag	aga tcg aat gag aag aac ccc	3901
Phe Leu Asp Trp Thr Glu Leu Lys	Arg Ser Asn Glu Lys Asn Pro	
1255	1260 1265	
ggg gaa ctt gcc cag cac aag gaa	gac ccc agg act gat gtc aag	3946
Gly Glu Leu Ala Gln His Lys Glu	Asp Pro Arg Thr Asp Val Lys	
1270	1275 1280	
gca tac gat gtg aca cgg atg gtg	tcc atg ccc cag acg aca gca	3991
Ala Tyr Asp Val Thr Arg Met Val	Ser Met Pro Gln Thr Thr Ala	
1285	1290 1295	
ggc acc atc ctg gac gga gtg aac	gtc ggc cgt ggc tat ggc ctg	4036
Gly Thr Ile Leu Asp Gly Val Asn	Val Gly Arg Gly Tyr Gly Leu	
1300	1305 1310	
gtg gaa gga cac gac agg agg cag	ttt gag atc acc agc gtt tcc	4081
Val Glu Gly His Asp Arg Arg Gln	Phe Glu Ile Thr Ser Val Ser	
1315	1320 1325	
gtg gat gtc tgg cac atc ctg gaa	ttc gac tat agc agg ctc ccc	4126
Val Asp Val Trp His Ile Leu Glu	Phe Asp Tyr Ser Arg Leu Pro	
1330	1335 1340	

61835-1.ST25.txt

aaa caa agc atc ggg cag ttc cat gag ggg gat gcc tat gtg gtc	4171
Lys Gln Ser Ile Gly Gln Phe His Glu Gly Asp Ala Tyr Val Val	
1345 1350 1355	
aag tgg aag ttc atg gtg agc acg gca gtg gga agt cgc cag aag	4216
Lys Trp Lys Phe Met Val Ser Thr Ala Val Gly Ser Arg Gln Lys	
1360 1365 1370	
gga gag cac tcg gtg agg gca gcc ggc aaa gag aag tgc gtc tac	4261
Gly Glu His Ser Val Arg Ala Ala Gly Lys Glu Lys Cys Val Tyr	
1375 1380 1385	
ttc ttc tgg caa ggc cgg cac tcc acc gtg agt gag aag ggc acg	4306
Phe Phe Trp Gln Gly Arg His Ser Thr Val Ser Glu Lys Gly Thr	
1390 1395 1400	
tcg gcg ctg atg acg gtg gag ctg gac gag gaa agg ggg gcc cag	4351
Ser Ala Leu Met Thr Val Glu Leu Asp Glu Glu Arg Gly Ala Gln	
1405 1410 1415	
gtc cag gtt ctc cag gga aag gag ccc ccc tgt ttc ctg cag tgt	4396
Val Gln Val Leu Gln Gly Lys Glu Pro Pro Cys Phe Leu Gln Cys	
1420 1425 1430	
ttc cag ggg ggg atg gtg gtg cac tcg ggg agg cgg gaa gag gaa	4441
Phe Gln Gly Gly Met Val Val His Ser Gly Arg Arg Glu Glu Glu	
1435 1440 1445	
gaa gaa aat gtg caa agt gag tgg cgg ctg tac tgc gtg cgt gga	4486
Glu Glu Asn Val Gln Ser Glu Trp Arg Leu Tyr Cys Val Arg Gly	
1450 1455 1460	
gag gtg ccc gtg gaa ggg aat ttg ctg gaa gtg gcc tgt cac tgt	4531
Glu Val Pro Val Glu Gly Asn Leu Leu Glu Val Ala Cys His Cys	
1465 1470 1475	
agc agc ctg agg tcc aga act tcc atg gtg gtg ctt aac gtc aac	4576
Ser Ser Leu Arg Ser Arg Thr Ser Met Val Val Leu Asn Val Asn	
1480 1485 1490	
aag gcc ctc atc tac ctg tgg cac gga tgc aaa gcc cag gcc cac	4621
Lys Ala Leu Ile Tyr Leu Trp His Gly Cys Lys Ala Gln Ala His	
1495 1500 1505	
acg aag gag gtc gga agg acc gct gcg aac aag atc aag gaa caa	4666
Thr Lys Glu Val Gly Arg Thr Ala Ala Asn Lys Ile Lys Glu Gln	
1510 1515 1520	
tgt ccc ctg gaa gca gga ctg cat agt agc agc aaa gtc aca ata	4711
Cys Pro Leu Glu Ala Gly Leu His Ser Ser Ser Lys Val Thr Ile	
1525 1530 1535	
cac gag tgt gat gaa ggc tcc gag cca ctc gga ttc tgg gat gcc	4756
His Glu Cys Asp Glu Gly Ser Glu Pro Leu Gly Phe Trp Asp Ala	
1540 1545 1550	
tta gga agg aga gac agg aaa gcc tac gat tgc atg ctt caa gat	4801
Leu Gly Arg Arg Asp Arg Lys Ala Tyr Asp Cys Met Leu Gln Asp	
1555 1560 1565	
cct gga agt ttt aac ttc gcg ccc cgc ctg ttc atc ctc agc agc	4846
Pro Gly Ser Phe Asn Phe Ala Pro Arg Leu Phe Ile Leu Ser Ser	
1570 1575 1580	



61835-1.ST25.txt															
tcc tct ggg gat ttt gca gcc aca gag ttt gtg tac cct gcc cga	Ser Ser Gly Asp Phe Ala Ala Thr Glu Phe Val Tyr Pro Ala Arg	1585	1590	1595											
gcc ccc tct gtg gtc agt tcc atg ccc ttc ctg cag gaa gat ctg	Ala Pro Ser Val Val Ser Ser Met Pro Phe Leu Gln Glu Asp Leu	1600	1605	1610											4936
tac agc gcg ccc cag cca gca ctt ttc ctt gtt gac aat cac cac	Tyr Ser Ala Pro Gln Pro Ala Leu Phe Leu Val Asp Asn His His	1615	1620	1625											4981
gag gtg tac ctc tgg caa ggc tgg tgg ccc atc gag aac aag atc	Glu Val Tyr Leu Trp Gln Gly Trp Trp Pro Ile Glu Asn Lys Ile	1630	1635	1640											5026
act ggt tcc gcc cgc atc cgc tgg gcc tcc gac cgg aag agt gcg	Thr Gly Ser Ala Arg Ile Arg Trp Ala Ser Asp Arg Lys Ser Ala	1645	1650	1655											5071
atg gag act gtg ctc cag tac tgc aaa gga aaa aat ctc aag aaa	Met Glu Thr Val Leu Gln Tyr Cys Lys Gly Lys Asn Leu Lys Lys	1660	1665	1670											5116
cca gcc ccc aag tct tac ctt atc cac gct ggt ctg gag ccc ctg	Pro Ala Pro Lys Ser Tyr Leu Ile His Ala Gly Leu Glu Pro Leu	1675	1680	1685											5161
aca ttc acc aat atg ttt ccc agc tgg gag cac aga gag gac atc	Thr Phe Thr Asn Met Phe Pro Ser Trp Glu His Arg Glu Asp Ile	1690	1695	1700											5206
gct gag atc aca gag atg gac acg gaa gtt tcc aat cag atc acc	Ala Glu Ile Thr Glu Met Asp Thr Glu Val Ser Asn Gln Ile Thr	1705	1710	1715											5251
ctc gtg gaa gac gtc tta gcc aag ctc tgt aaa acc att tac ccg	Leu Val Glu Asp Val Leu Ala Lys Leu Cys Lys Thr Ile Tyr Pro	1720	1725	1730											5296
ctg gcc gac ctc ctg gcc agg cca ctc ccg gag ggg gtc gat cct	Leu Ala Asp Leu Leu Ala Arg Pro Leu Pro Glu Gly Val Asp Pro	1735	1740	1745											5341
ctg aag ctt gag atc tat ctc acc gac gaa gac ttc gag ttt gca	Leu Lys Leu Glu Ile Tyr Leu Thr Asp Glu Asp Phe Glu Phe Ala	1750	1755	1760											5386
cta gac atg acg agg gat gaa tac aac gcc ctg ccc gcc tgg aag	Leu Asp Met Thr Arg Asp Glu Tyr Asn Ala Leu Pro Ala Trp Lys	1765	1770	1775											5431
cag gtg aac ctg aag aaa gca aaa ggc ctg ttc tga gtggggagac	Gln Val Asn Leu Lys Lys Ala Lys Gly Leu Phe	1780	1785												5477
gccagaggag cctcacggtc acgtccaaca acaccactgc accagggaaa tggatatata															5537
tttttggact ggtgtttttc acaaagtatt tttcaatcag agtttttcaga acctgacatt															5597
gttaaagata ctgcttgtcc cggagttgtg tattttgtaa atgttcaagg gaactgtttg															5657
gaaacttctt tccaccattc a															5678

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<210> 36  
 <211> 1788  
 <212> PRT  
 <213> homo sapiens

<400> 36

Met Lys Arg Lys Glu Arg Ile Ala Arg Arg Leu Glu Gly Ile Glu Asn  
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Asp Thr Gln Pro Ile Leu Leu Gln Ser Cys Thr Gly Leu Val Thr His  
 20 25 30

Arg Leu Leu Glu Glu Asp Thr Pro Arg Tyr Met Arg Ala Ser Asp Pro  
 35 40 45

Ala Ser Pro His Ile Gly Arg Ser Asn Glu Glu Glu Glu Thr Ser Asp  
 50 55 60

Ser Ser Leu Glu Lys Gln Thr Arg Ser Lys Tyr Cys Thr Glu Thr Ser  
 65 70 75 80

Gly Val His Gly Asp Ser Pro Tyr Gly Ser Gly Thr Met Asp Thr His  
 85 90 95

Ser Leu Glu Ser Lys Ala Glu Arg Ile Ala Arg Tyr Lys Ala Glu Arg  
 100 105 110

Arg Arg Gln Leu Ala Glu Lys Tyr Gly Leu Thr Leu Asp Pro Glu Ala  
 115 120 125

Asp Ser Glu Tyr Leu Ser Arg Tyr Thr Lys Ser Arg Lys Glu Pro Asp  
 130 135 140

Ala Val Glu Lys Arg Gly Gly Lys Ser Asp Lys Gln Glu Glu Ser Ser  
 145 150 155 160

Arg Asp Ala Ser Ser Leu Tyr Pro Gly Thr Glu Thr Met Gly Leu Arg  
 165 170 175

Thr Cys Ala Gly Glu Ser Lys Asp Tyr Ala Leu His Val Gly Asp Gly  
 180 185 190

Ser Ser Asp Pro Glu Val Leu Leu Asn Ile Glu Asn Gln Arg Arg Gly  
 195 200 205

Gln Glu Leu Ser Ala Thr Arg Gln Ala His Asp Leu Ser Pro Ala Ala  
 210 215 220

## 61835-1.ST25.txt

Glu Ser Ser Ser Thr Phe Ser Phe Ser Gly Arg Asp Ser Ser Phe Thr  
 225 230 235 240

Glu Val Pro Arg Ser Pro Lys His Ala His Ser Ser Ser Leu Gln Gln  
 245 250 255

Ala Ala Ser Arg Ser Pro Ser Phe Gly Asp Pro Gln Leu Ser Pro Glu  
 260 265 270

Ala Arg Pro Arg Cys Thr Ser His Ser Glu Thr Pro Thr Val Asp Asp  
 275 280 285

Glu Glu Lys Val Asp Glu Arg Ala Lys Leu Ser Val Ala Ala Lys Arg  
 290 295 300

Leu Leu Phe Arg Glu Met Glu Lys Ser Phe Asp Glu Gln Asn Val Pro  
 305 310 315 320

Lys Arg Arg Ser Arg Asn Thr Ala Val Glu Gln Arg Leu Arg Arg Leu  
 325 330 335

Gln Asp Arg Ser Leu Thr Gln Pro Ile Thr Thr Glu Glu Val Val Ile  
 340 345 350

Ala Ala Thr Leu Gln Ala Ser Ala His Gln Lys Ala Leu Ala Lys Asp  
 355 360 365

Gln Thr Asn Glu Gly Lys Glu Leu Ala Glu Gln Gly Glu Pro Asp Ser  
 370 375 380

Ser Thr Leu Ser Leu Ala Glu Lys Leu Ala Leu Phe Asn Lys Leu Ser  
 385 390 395 400

Gln Pro Val Ser Lys Ala Ile Ser Thr Arg Asn Arg Ile Asp Thr Arg  
 405 410 415

Gln Arg Arg Met Asn Ala Arg Tyr Gln Thr Gln Pro Val Thr Leu Gly  
 420 425 430

Glu Val Glu Gln Val Gln Ser Gly Lys Leu Ile Pro Phe Ser Pro Ala  
 435 440 445

Val Asn Thr Ser Val Ser Thr Val Ala Ser Thr Val Ala Pro Met Tyr  
 450 455 460

Ala Gly Asp Leu Arg Thr Lys Pro Pro Leu Asp His Asn Ala Ser Ala  
 465 470 475 480

## 61835-1.ST25.txt

Thr Asp Tyr Lys Phe Ser Ser Ser Ile Glu Asn Ser Asp Ser Pro Val  
 485 490 495

Arg Ser Ile Leu Lys Ser Gln Ala Trp Gln Pro Leu Val Glu Gly Ser  
 500 505 510

Glu Asn Lys Gly Met Leu Arg Glu Tyr Gly Glu Thr Glu Ser Lys Arg  
 515 520 525

Ala Leu Thr Gly Arg Asp Ser Gly Met Glu Lys Tyr Gly Ser Phe Glu  
 530 535 540

Glu Ala Glu Ala Ser Tyr Pro Ile Leu Asn Arg Ala Arg Glu Gly Asp  
 545 550 555 560

Ser His Lys Glu Ser Lys Tyr Ala Val Pro Arg Arg Gly Ser Leu Glu  
 565 570 575

Arg Ala Asn Pro Pro Ile Thr His Leu Gly Asp Glu Pro Lys Glu Phe  
 580 585 590

Ser Met Ala Lys Met Asn Ala Gln Gly Asn Leu Asp Leu Arg Asp Arg  
 595 600 605

Leu Pro Phe Glu Glu Lys Val Glu Val Glu Asn Val Met Lys Arg Lys  
 610 615 620

Phe Ser Leu Arg Ala Ala Glu Phe Gly Glu Pro Thr Ser Glu Gln Thr  
 625 630 635 640

Gly Thr Ala Ala Gly Lys Thr Ile Ala Gln Thr Thr Ala Pro Val Ser  
 645 650 655

Trp Lys Pro Gln Asp Ser Ser Glu Gln Pro Gln Glu Lys Leu Cys Lys  
 660 665 670

Asn Pro Cys Ala Met Phe Ala Ala Gly Glu Ile Lys Thr Pro Thr Gly  
 675 680 685

Glu Gly Leu Leu Asp Ser Pro Ser Lys Thr Met Ser Ile Lys Glu Arg  
 690 695 700

Leu Ala Leu Leu Lys Lys Ser Gly Glu Glu Asp Trp Arg Asn Arg Leu  
 705 710 715 720

Ser Arg Arg Gln Glu Gly Gly Lys Ala Pro Ala Ser Ser Leu His Thr  
 725 730 735

## 61835-1.ST25.txt

Gln Glu Ala Gly Arg Ser Leu Ile Lys Lys Arg Val Thr Glu Ser Arg  
 740 745 750

Glu Ser Gln Met Thr Ile Glu Glu Arg Lys Gln Leu Ile Thr Val Arg  
 755 760 765

Glu Glu Ala Trp Lys Thr Arg Gly Arg Gly Ala Ala Asn Asp Ser Thr  
 770 775 780

Gln Phe Thr Val Ala Gly Arg Met Val Lys Lys Gly Leu Ala Ser Pro  
 785 790 795 800

Thr Ala Ile Thr Pro Val Ala Ser Ala Ile Cys Gly Lys Thr Arg Gly  
 805 810 815

Thr Thr Pro Val Ser Lys Pro Leu Glu Asp Ile Glu Ala Arg Pro Asp  
 820 825 830

Met Gln Leu Glu Ser Asp Leu Lys Leu Asp Arg Leu Glu Thr Phe Leu  
 835 840 845

Arg Arg Leu Asn Asn Lys Val Gly Gly Met His Glu Thr Val Leu Thr  
 850 855 860

Val Thr Gly Lys Ser Val Lys Glu Val Met Lys Pro Asp Asp Asp Glu  
 865 870 875 880

Thr Phe Ala Lys Phe Tyr Arg Ser Val Asp Tyr Asn Met Pro Arg Ser  
 885 890 895

Pro Val Glu Met Asp Glu Asp Phe Asp Val Ile Phe Asp Pro Tyr Ala  
 900 905 910

Pro Lys Leu Thr Ser Ser Val Ala Glu His Lys Arg Ala Val Arg Pro  
 915 920 925

Lys Arg Arg Val Gln Ala Ser Lys Asn Pro Leu Lys Met Leu Ala Ala  
 930 935 940

Arg Glu Asp Leu Leu Gln Glu Tyr Thr Glu Gln Arg Leu Asn Val Ala  
 945 950 955 960

Phe Met Glu Ser Lys Arg Met Lys Val Glu Lys Met Ser Ser Asn Ser  
 965 970 975

Asn Phe Ser Glu Val Thr Leu Ala Gly Leu Ala Ser Lys Glu Asn Phe  
 980 985 990

## 61835-1.ST25.txt

Ser Asn Val Ser Leu Arg Ser Val Asn Leu Thr Glu Gln Asn Ser Asn  
 995 1000 1005

Asn Ser Ala Val Pro Tyr Lys Arg Leu Met Leu Leu Gln Ile Lys  
 1010 1015 1020

Gly Arg Arg His Val Gln Thr Arg Leu Val Glu Pro Arg Ala Ser  
 1025 1030 1035

Ala Leu Asn Ser Gly Asp Cys Phe Leu Leu Leu Ser Pro His Cys  
 1040 1045 1050

Cys Phe Leu Trp Val Gly Glu Phe Ala Asn Val Ile Glu Lys Ala  
 1055 1060 1065

Lys Ala Ser Glu Leu Ala Thr Leu Ile Gln Thr Lys Arg Glu Leu  
 1070 1075 1080

Gly Cys Arg Ala Thr Tyr Ile Gln Thr Ile Glu Glu Gly Ile Asn  
 1085 1090 1095

Thr His Thr His Ala Ala Lys Asp Phe Trp Lys Leu Leu Gly Gly  
 1100 1105 1110

Gln Thr Ser Tyr Gln Ser Ala Gly Asp Pro Lys Glu Asp Glu Leu  
 1115 1120 1125

Tyr Glu Ala Ala Ile Ile Glu Thr Asn Cys Ile Tyr Arg Leu Met  
 1130 1135 1140

Asp Asp Lys Leu Val Pro Asp Asp Asp Tyr Trp Gly Lys Ile Pro  
 1145 1150 1155

Lys Cys Ser Leu Leu Gln Pro Lys Glu Val Leu Val Phe Asp Phe  
 1160 1165 1170

Gly Ser Glu Val Tyr Val Trp His Gly Lys Glu Val Thr Leu Ala  
 1175 1180 1185

Gln Arg Lys Ile Ala Phe Gln Leu Ala Lys His Leu Trp Asn Gly  
 1190 1195 1200

Thr Phe Asp Tyr Glu Asn Cys Asp Ile Asn Pro Leu Asp Pro Gly  
 1205 1210 1215

Glu Cys Asn Pro Leu Ile Pro Arg Lys Gly Gln Gly Arg Pro Asp  
 1220 1225 1230

## 61835-1.ST25.txt

Trp Ala Ile Phe Gly Arg Leu Thr Glu His Asn Glu Thr Ile Leu  
 1235 1240 1245  
 Phe Lys Glu Lys Phe Leu Asp Trp Thr Glu Leu Lys Arg Ser Asn  
 1250 1255 1260  
 Glu Lys Asn Pro Gly Glu Leu Ala Gln His Lys Glu Asp Pro Arg  
 1265 1270 1275  
 Thr Asp Val Lys Ala Tyr Asp Val Thr Arg Met Val Ser Met Pro  
 1280 1285 1290  
 Gln Thr Thr Ala Gly Thr Ile Leu Asp Gly Val Asn Val Gly Arg  
 1295 1300 1305  
 Gly Tyr Gly Leu Val Glu Gly His Asp Arg Arg Gln Phe Glu Ile  
 1310 1315 1320  
 Thr Ser Val Ser Val Asp Val Trp His Ile Leu Glu Phe Asp Tyr  
 1325 1330 1335  
 Ser Arg Leu Pro Lys Gln Ser Ile Gly Gln Phe His Glu Gly Asp  
 1340 1345 1350  
 Ala Tyr Val Val Lys Trp Lys Phe Met Val Ser Thr Ala Val Gly  
 1355 1360 1365  
 Ser Arg Gln Lys Gly Glu His Ser Val Arg Ala Ala Gly Lys Glu  
 1370 1375 1380  
 Lys Cys Val Tyr Phe Phe Trp Gln Gly Arg His Ser Thr Val Ser  
 1385 1390 1395  
 Glu Lys Gly Thr Ser Ala Leu Met Thr Val Glu Leu Asp Glu Glu  
 1400 1405 1410  
 Arg Gly Ala Gln Val Gln Val Leu Gln Gly Lys Glu Pro Pro Cys  
 1415 1420 1425  
 Phe Leu Gln Cys Phe Gln Gly Gly Met Val Val His Ser Gly Arg  
 1430 1435 1440  
 Arg Glu Glu Glu Glu Asn Val Gln Ser Glu Trp Arg Leu Tyr  
 1445 1450 1455  
 Cys Val Arg Gly Glu Val Pro Val Glu Gly Asn Leu Leu Glu Val  
 1460 1465 1470

## 61835-1.ST25.txt

Ala	Cys	His	Cys	Ser	Ser	Leu	Arg	Ser	Arg	Thr	Ser	Met	Val	Val
1475						1480					1485			
Leu	Asn	Val	Asn	Lys	Ala	Leu	Ile	Tyr	Leu	Trp	His	Gly	Cys	Lys
1490						1495					1500			
Ala	Gln	Ala	His	Thr	Lys	Glu	Val	Gly	Arg	Thr	Ala	Ala	Asn	Lys
1505						1510					1515			
Ile	Lys	Glu	Gln	Cys	Pro	Leu	Glu	Ala	Gly	Leu	His	Ser	Ser	Ser
1520						1525					1530			
Lys	Val	Thr	Ile	His	Glu	Cys	Asp	Glu	Gly	Ser	Glu	Pro	Leu	Gly
1535						1540					1545			
Phe	Trp	Asp	Ala	Leu	Gly	Arg	Arg	Asp	Arg	Lys	Ala	Tyr	Asp	Cys
1550						1555					1560			
Met	Leu	Gln	Asp	Pro	Gly	Ser	Phe	Asn	Phe	Ala	Pro	Arg	Leu	Phe
1565						1570					1575			
Ile	Leu	Ser	Ser	Ser	Ser	Gly	Asp	Phe	Ala	Ala	Thr	Glu	Phe	Val
1580						1585					1590			
Tyr	Pro	Ala	Arg	Ala	Pro	Ser	Val	Val	Ser	Ser	Met	Pro	Phe	Leu
1595						1600					1605			
Gln	Glu	Asp	Leu	Tyr	Ser	Ala	Pro	Gln	Pro	Ala	Leu	Phe	Leu	Val
1610						1615					1620			
Asp	Asn	His	His	Glu	Val	Tyr	Leu	Trp	Gln	Gly	Trp	Trp	Pro	Ile
1625						1630					1635			
Glu	Asn	Lys	Ile	Thr	Gly	Ser	Ala	Arg	Ile	Arg	Trp	Ala	Ser	Asp
1640						1645					1650			
Arg	Lys	Ser	Ala	Met	Glu	Thr	Val	Leu	Gln	Tyr	Cys	Lys	Gly	Lys
1655						1660					1665			
Asn	Leu	Lys	Lys	Pro	Ala	Pro	Lys	Ser	Tyr	Leu	Ile	His	Ala	Gly
1670						1675					1680			
Leu	Glu	Pro	Leu	Thr	Phe	Thr	Asn	Met	Phe	Pro	Ser	Trp	Glu	His
1685						1690					1695			
Arg	Glu	Asp	Ile	Ala	Glu	Ile	Thr	Glu	Met	Asp	Thr	Glu	Val	Ser
1700						1705					1710			



## 61835-1.ST25.txt

Asn Gln Ile Thr Leu Val Glu Asp Val Leu Ala Lys Leu Cys Lys  
 1715 1720 1725

Thr Ile Tyr Pro Leu Ala Asp Leu Leu Ala Arg Pro Leu Pro Glu  
 1730 1735 1740

Gly Val Asp Pro Leu Lys Leu Glu Ile Tyr Leu Thr Asp Glu Asp  
 1745 1750 1755

Phe Glu Phe Ala Leu Asp Met Thr Arg Asp Glu Tyr Asn Ala Leu  
 1760 1765 1770

Pro Ala Trp Lys Gln Val Asn Leu Lys Lys Ala Lys Gly Leu Phe  
 1775 1780 1785

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 <222> (505)..(505)  
 <223> n is a, c, g, or t

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 gtggcatatg gacaccccca gtgctgccgg tctcgcttcc ggtacaaaag tctcagcagg 120  
 aaaccaacct taatggccttg ttgatggata agacggcatc aacttgtaca ttgcccatt 180  
 gagagaactc ccaggagcaa ctgtcctctc tccagtacac gcggcacgtt gctaagaagg 240  
 cagatttcag gatattcaca ttcattgcatt acgtatctca cactacctgg gcagtttaac 300  
 tcatactttg tacagatgca gagagtacag tagttgtatt tatatatata tatatgtaga 360  
 gatctcttta aatatatata gctatatata atatatatgt ttatatgttt acacctatta 420  
 gtctttcttc caaaacttcc tttagaagct tcttaggaac acctgaaacc tctgggagat 480  
 cctatgatct gagttccaaa gttgnggtca actgtgagac ggctggaaaa gatctatttg 540  
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 tcgg 604

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 <222> (130)..(633)

## 61835-1.ST25.txt

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ggcgacccc atg gca tcc ccc aga acc gta act att gtg gcc ctc tca gtg      171
      Met Ala Ser Pro Arg Thr Val Thr Ile Val Ala Leu Ser Val
      1              5              10

gcc ctg gga ctc ttc ttt gtt ttc atg ggg act atc aag ctg acc ccc      219
Ala Leu Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro
15              20              25              30

agg ctc agc aag gat gcc tac agt gag atg aaa cgt gct tac aag agc      267
Arg Leu Ser Lys Asp Ala Tyr Ser Glu Met Lys Arg Ala Tyr Lys Ser
      35              40              45

tat gtt cga gcc ctc cct ctg ctg aag aaa atg ggg atc aat tcc att      315
Tyr Val Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile
      50              55              60

ctc ctc cga aaa agc att ggt gcc ctt gaa gtg gcc tgt ggc atc gtc      363
Leu Leu Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val
      65              70              75

atg acc ctt gtg cct ggg cgt ccc aaa gat gtg gcc aac ttc ttc cta      411
Met Thr Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu
      80              85              90

ctg ttg ctg gtg ttg gct gtg ctc ttc ttc cac cag ctg gtc ggt gat      459
Leu Leu Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp
      95              100              105              110

cct ctc aaa cgc tac gcc cat gct ctg gtg ttt gga atc ctg ctc act      507
Pro Leu Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr
      115              120              125

tgc cgc ctg ctg att gct cgc aag ccc gaa gac cgg tct tct gag aag      555
Cys Arg Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys
      130              135              140

aag cct ttg cca ggg aat gct gag gag caa ccc tcc tta tat gag aag      603
Lys Pro Leu Pro Gly Asn Ala Glu Glu Gln Pro Ser Leu Tyr Glu Lys
      145              150              155

gcc cct cag ggc aaa gtg aag gtg tca tag aaaagtggaa gtgcaaagag      653
Ala Pro Gln Gly Lys Val Lys Val Ser
      160              165

tggaccttcc aggcagttgc gtccatgaca ccaggaagat gtcagtgtgt gtttttcatt      713
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ttgtgtacat ctatatgcta aaatgacttc cccacattga catttgtgcg ccacctttaa      833
tcactctggg gcaactctca catcttgctg catgtacatg tatacggcta ctattgaagt      893
gtaattgtga gatggactcc aacaagcatg tgactgtgag attgtgtgtg ggaaaatgta      953
ttaaactact ctgtgtgtgt gtgtgtgtgt gtgtgcgcac gcgcgcacgc gcacacactc      1013
acgcacacac aagcagagaa ggcgctgata ttgaactaat cctgcacagg catccttccc      1073

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## 61835-1.ST25.txt

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acttactact ttaggagaaa aaaaaaaaca ttcaatttcg gacactgagt tatatatgaa 1253
attaattagg ctctagtcca acagttgttt acattttaaa tagtccatat tgaatttaat 1313
taaaacaagg gatgcatgca gtcaaattga tagtttaatt cttcaagtga taatatagga 1373
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aatcatccaa aatttgaaaa agaagctata tccagtgttt cactgccaaa cagattcact 1673
actcttactg attcttcact gagctttgct agtataagca gagttccaag tctcccctag 1733
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tttttccttg ttaggtgtgc tttggtggtt ttaatattat tgtgccaggg atggggaaat 1913
gggggggggt gtgtgggaag agtacttatt attgtgtttt cttcagtgtg attgttcttg 1973
gtaattgata cctctctgtt ttatttctct cattctttca aaataaaaact ttttgaaatt 2033
tggagg 2039

```

<210> 39  
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 <212> PRT  
 <213> homo sapiens

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 1 5 10 15

Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro Arg Leu  
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Ser Lys Asp Ala Tyr Ser Glu Met Lys Arg Ala Tyr Lys Ser Tyr Val  
 35 40 45

Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile Leu Leu  
 50 55 60

Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val Met Thr  
 65 70 75 80

Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu Leu Leu  
 85 90 95

61835-1.ST25.txt

Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp Pro Leu  
100 105 110

Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr Cys Arg  
115 120 125

Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys Lys Pro  
130 135 140

Leu Pro Gly Asn Ala Glu Glu Gln Pro Ser Leu Tyr Glu Lys Ala Pro  
145 150 155 160

Gln Gly Lys Val Lys Val Ser  
165

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<212> DNA  
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Met Tyr Ser Glu Ile Gln Arg Glu Arg Ala Asp Ile  
1 5 10  
ggg ggc ctg atg gcc cgg cca gaa tac aga gag tgg aat ccg gag ctc 158  
Gly Gly Leu Met Ala Arg Pro Glu Tyr Arg Glu Trp Asn Pro Glu Leu  
15 20 25  
atc aag ccc aag aag ctg ctg aac ccc gtg aag gcc tct cgg agt cac 206  
Ile Lys Pro Lys Lys Leu Asn Pro Val Lys Ala Ser Arg Ser His  
30 35 40  
cag gag ctc cac cgg gag ctg ctc atg aac cac aga agg ggc ctt ggt 254  
Gln Glu Leu His Arg Glu Leu Leu Met Asn His Arg Arg Gly Leu Gly  
45 50 55 60  
gtg gac agc aag cca gag ctg cag cgt gtc cta gag cac cgc cgg cgg 302  
Val Asp Ser Lys Pro Glu Leu Gln Arg Val Leu Glu His Arg Arg Arg  
65 70 75  
aac cag ctc atc aag aag aag aag gag gag ctg gaa gcc aag cgg ctg 350  
Asn Gln Leu Ile Lys Lys Lys Lys Glu Leu Glu Ala Lys Arg Leu  
80 85 90  
cag tgc ccc ttt gag cag gag ctg ctg aga cgg cag cag agg ctg aac 398  
Gln Cys Pro Phe Glu Gln Glu Leu Leu Arg Arg Gln Gln Arg Leu Asn  
95 100 105  
cag ctg gaa aaa cca cca gag aag gaa gag gat cac gcc ccc gag ttt 446

## 61835-1.ST25.txt

Gln Leu Glu Lys Pro Pro Glu Lys Glu Glu Asp His Ala Pro Glu Phe  
 110 115 120

att aaa gtc agg gaa aac ctg cgg aga att gcc aca ctg acc agc gaa 494  
 Ile Lys Val Arg Glu Asn Leu Arg Arg Ile Ala Thr Leu Thr Ser Glu  
 125 130 135 140

gag aga gag ctg tag ggccagctgc cgggctcagg ccactgccca ccctggcctg 549  
 Glu Arg Glu Leu

gacagcctcc ttcagccctt ctgtacctgg cagccctggg ccccaggccc tgggacgtct 609

gtgatgttcc cacctgcttc tgtagaaatg tgtcacccca gagggcctgg ctctccctgg 669

gaggctgggg ccctaagct cctaggtttt ccttccaagc acccagccct cctgctccaa 729

gagggataac ctgcaccctt ccctgcaagg ggttcagagc ccagcacagg agctttctct 789

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aaggacacct gccttcaaag ccactgaggg gaggaagggc agggcagact gcaggtggcc 1029

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ccatgctgtg agcagcaggg cgagagtgcc cagggtgat atatattgga aatatcccc 1389

ctgaagccat cgctggcccc cacctcctgt ggactgatgc cccagggtatt cccacccac 1449

ttctgcaacc ccaggatatcc ttcattatcc accccatccc agactccac cccagggtatt 1509

gcccgtgaag actttggcct agcaaattgt gttggttatg tgagtgtgt tttaatcaga 1569

gatgtacatg attgccaatc tgcatttctt accagtgtga ccacactgtt acgatgcaat 1629

tctagccaaa aaaaaaa 1646

<210> 41  
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<400> 41

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Ala Arg Pro Glu Tyr Arg Glu Trp Asn Pro Glu Leu Ile Lys Pro Lys  
 20 25 30

## 61835-1.ST25.txt

Lys Leu Leu Asn Pro Val Lys Ala Ser Arg Ser His Gln Glu Leu His  
 35 40 45

Arg Glu Leu Leu Met Asn His Arg Arg Gly Leu Gly Val Asp Ser Lys  
 50 55 60

Pro Glu Leu Gln Arg Val Leu Glu His Arg Arg Arg Asn Gln Leu Ile  
 65 70 75 80

Lys Lys Lys Lys Glu Glu Leu Glu Ala Lys Arg Leu Gln Cys Pro Phe  
 85 90 95

Glu Gln Glu Leu Leu Arg Arg Gln Gln Arg Leu Asn Gln Leu Glu Lys  
 100 105 110

Pro Pro Glu Lys Glu Glu Asp His Ala Pro Glu Phe Ile Lys Val Arg  
 115 120 125

Glu Asn Leu Arg Arg Ile Ala Thr Leu Thr Ser Glu Glu Arg Glu Leu  
 130 135 140

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 atctcttcat ttaaaaacag aactttgttg ttaactgtgg aaaagaaatt gttattggag 180  
 agttctcaga gtgagaatag ctgaatacag gttcactgtg aaaaaaag 228

<210> 43  
 <211> 2797  
 <212> DNA  
 <213> homo sapiens

<220>  
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<400> 43  
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 ggaactataa ctctcttgcg agaggcggag aactccttcc ccaaattcttt tggggacttt 180  
 tctctcttta cccacctccg cccctgagag gagttgaggg gccagttcgg ccgccgcgcg 240  
 cgtcttcccc ttcggcgtgt gcttggcccc gggaaccggg agggcccggc gatcgcgcg 300

cggccgccgc gaggggtgtga gcgcgcgtgg gcgcccgccg agccgaggcc atg gtg Met Val 1															356	
cag Gln	caa Gln	acc Thr 5	aac Asn	aat Asn	gcc Ala	gag Glu	aac Asn 10	acg Thr	gaa Glu	gcg Ala	ctg Leu 15	ctg Leu	gcc Ala	ggc Gly	gag Glu	404
agc Ser	tcg Ser 20	gac Asp	tcg Ser	ggc Gly	gcc Ala	ggc Gly 25	ctc Leu	gag Glu	ctg Leu	gga Gly 30	atc Ile	gcc Ala	tcc Ser	tcc Ser	ccc Pro	452
acg Thr 35	ccc Pro	ggc Gly	tcc Ser	acc Thr	gcc Ala 40	tcc Ser	acg Thr	ggc Gly	ggc Gly 45	aag Lys	gcc Ala	gac Asp	gac Asp	ccg Pro	agc Ser 50	500
tgg Trp	tgc Cys	aag Lys	acc Thr	ccg Pro 55	agt Ser	ggg Gly	cac His	atc Ile	aag Lys 60	cga Arg	ccc Pro	atg Met	aac Asn	gcc Ala 65	ttc Phe	548
atg Met	gtg Val	tgg Trp 70	tcg Ser	cag Gln	atc Ile	gag Glu	cgg Arg	cgc Arg 75	aag Lys	atc Ile	atg Met	gag Glu	cag Gln 80	tcg Ser	ccc Pro	596
gac Asp	atg Met	cac His 85	aac Asn	gcc Ala	gag Glu	atc Ile	tcc Ser 90	aag Lys	cgg Arg	ctg Leu	ggc Gly 95	aaa Lys	cgc Arg	tgg Trp	aag Lys	644
ctg Leu	ctc Leu 100	aaa Lys	gac Asp	agc Ser	gac Asp	aag Lys 105	atc Ile	cct Pro	ttc Phe	att Ile	cga Arg 110	gag Glu	gcg Ala	gag Glu	cgg Arg	692
ctg Leu 115	cgc Arg	ctc Leu	aag Lys	cac His	atg Met 120	gct Ala	gac Asp	tac Tyr	ccc Pro	gac Asp 125	tac Tyr	aag Lys	tac Tyr	cgg Arg	ccc Pro 130	740
agg Arg	aag Lys	aag Lys	gtg Val	aag Lys 135	tcc Ser	ggc Gly	aac Asn	gcc Ala	aac Asn 140	tcc Ser	agc Ser	tcc Ser	tcg Ser	gcc Ala 145	gcc Ala	788
gcc Ala	tcc Ser	tcc Ser	aag Lys 150	ccg Pro	ggg Gly	gag Glu	aag Lys	gga Gly 155	gac Asp	aag Lys	gtc Val	ggt Gly 160	ggc Gly	agt Ser	ggc Gly	836
ggg Gly	ggc Gly	ggc Gly 165	cat His	ggg Gly	ggc Gly	ggc Gly 170	ggc Gly	ggc Gly	ggc Gly	ggg Gly	agc Ser	agc Ser 175	aac Asn	gcg Ala	ggg Gly	884
gga Gly 180	gga Gly	ggc Gly	ggc Gly	ggt Gly	gcg Ala	agt Ser 185	ggc Gly	ggc Gly	ggc Gly	gcc Ala	aac Asn 190	tcc Ser	aaa Lys	ccg Pro	gcg Ala	932
cag Gln 195	aaa Lys	aag Lys	agc Ser	tgc Cys	ggc Gly 200	tcc Ser	aaa Lys	gtg Val	gcg Ala	ggc Gly 205	ggc Gly	gcg Ala	ggc Gly	ggt Gly	ggg Gly 210	980
gtt Val	agc Ser	aaa Lys	ccg Pro	cac His 215	gcc Ala	aag Lys	ctc Leu	atc Ile	ctg Leu 220	gca Ala	ggc Gly	ggc Gly	ggc Gly	ggc Gly 225	ggc Gly	1028
ggg Gly	aaa Lys	gca Ala 230	gcg Ala	gct Ala	gcc Ala	gcc Ala	gcc Ala 235	gcc Ala	tcc Ser	ttc Phe	gcc Ala	gcc Ala	gaa Glu 240	cag Gln	gcg Ala	1076

## 61835-1.ST25.txt

ggg gcc gcc gcc ctg ctg ccc ctg ggc gcc gcc gcc gac cac cac tcg 1124  
 Gly Ala Ala Ala Leu Leu Pro Leu Gly Ala Ala Ala Asp His His Ser  
 245 250 255

ctg tac aag gcg cgg act ccc agc gcc tcg gcc tcc gcc tcc tcg gca 1172  
 Leu Tyr Lys Ala Arg Thr Pro Ser Ala Ser Ala Ser Ala Ser Ser Ala  
 260 265 270

gcc tcg gcc tcc gca gcg ctc gcg gcc ccg ggc aag cac ctg gcg gag 1220  
 Ala Ser Ala Ser Ala Ala Leu Ala Ala Pro Gly Lys His Leu Ala Glu  
 275 280 285 290

aag aag gtg aag cgc gtc tac ctg ttc ggc ggc ctg ggc acg tcg tcg 1268  
 Lys Lys Val Lys Arg Val Tyr Leu Phe Gly Gly Leu Gly Thr Ser Ser  
 295 300 305

tcg ccc gtg ggc ggc gtg ggc gcg gga gcc gac ccc agc gac ccc ctg 1316  
 Ser Pro Val Gly Gly Val Gly Ala Gly Ala Asp Pro Ser Asp Pro Leu  
 310 315 320

ggc ctg tac gag gag gag ggc gcg ggc tgc tcg ccc gac gcg ccc agc 1364  
 Gly Leu Tyr Glu Glu Glu Gly Ala Gly Cys Ser Pro Asp Ala Pro Ser  
 325 330 335

ctg agc ggc cgc agc agc gcc gcc tcg tcc ccc gcc gcc ggc cgc tcg 1412  
 Leu Ser Gly Arg Ser Ser Ala Ala Ser Ser Pro Ala Ala Gly Arg Ser  
 340 345 350

ccc gcc gac cac cgc ggc tac gcc agc ctg cgc gcc gcc tcg ccc gcc 1460  
 Pro Ala Asp His Arg Gly Tyr Ala Ser Leu Arg Ala Ala Ser Pro Ala  
 355 360 365 370

ccg tcc agc gcg ccc tcg cac gcg tcc tcc tcg gcc tcg tcc cac tcc 1508  
 Pro Ser Ser Ala Pro Ser His Ala Ser Ser Ser Ala Ser Ser His Ser  
 375 380 385

tcc tct tcc tcc tcc tcg ggc tcc tcg tcc tcc gac gac gag ttc gaa 1556  
 Ser Ser Ser Ser Ser Ser Gly Ser Ser Ser Ser Asp Asp Glu Phe Glu  
 390 395 400

gac gac ctg ctc gac ctg aac ccc agc tca aac ttt gag agc atg tcc 1604  
 Asp Asp Leu Leu Asp Leu Asn Pro Ser Ser Asn Phe Glu Ser Met Ser  
 405 410 415

ctg ggc agc ttc agt tcg tcg tcg gcg ctc gac cgg gac ctg gat ttt 1652  
 Leu Gly Ser Phe Ser Ser Ser Ser Ala Leu Asp Arg Asp Leu Asp Phe  
 420 425 430

aac ttc gag ccc ggc tcc ggc tcg cac ttc gag ttc ccg gac tac tgc 1700  
 Asn Phe Glu Pro Gly Ser Gly Ser His Phe Glu Phe Pro Asp Tyr Cys  
 435 440 445 450

acg ccc gag gtg agc gag atg atc tcg gga gac tgg ctc gag tcc agc 1748  
 Thr Pro Glu Val Ser Glu Met Ile Ser Gly Asp Trp Leu Glu Ser Ser  
 455 460 465

atc tcc aac ctg gtt ttc acc tac tga agggcgcgca ggcagggaga 1795  
 Ile Ser Asn Leu Val Phe Thr Tyr  
 470

agggccgggg ggggtaggag aggagaaaaa aaaagtga aaagaaacg aaaaggacag 1855

acgaagagtt taaagagaaa agggaaaaaa gaaagaaaaa gtaagcaggg ctcgttcgcc 1915



## 61835-1.ST25.txt

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 caccttcccc ggccggggac cactctgcc cagccggagg gacgcggagg aggaagaggg 2035  
 tagacagggg cgacctgtga ttgttggtat tgatgttggt gttgatggca aaaaaaaaaa 2095  
 gcgacttcga gtttgctccc ctttgcttga agagaccccc tcccccttcc aacgagcttc 2155  
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 tcccagaccc cggaggcgtg gaggagagga gactgtttga tgtggtacag gggcagtcag 2755  
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<210> 44  
 <211> 474  
 <212> PRT  
 <213> homo sapiens

<400> 44

Met Val Gln Gln Thr Asn Asn Ala Glu Asn Thr Glu Ala Leu Leu Ala  
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Gly Glu Ser Ser Asp Ser Gly Ala Gly Leu Glu Leu Gly Ile Ala Ser  
20 25 30

Ser Pro Thr Pro Gly Ser Thr Ala Ser Thr Gly Gly Lys Ala Asp Asp  
35 40 45

Pro Ser Trp Cys Lys Thr Pro Ser Gly His Ile Lys Arg Pro Met Asn  
50 55 60

Ala Phe Met Val Trp Ser Gln Ile Glu Arg Arg Lys Ile Met Glu Gln  
65 70 75 80

Ser Pro Asp Met His Asn Ala Glu Ile Ser Lys Arg Leu Gly Lys Arg  
85 90 95

Trp Lys Leu Leu Lys Asp Ser Asp Lys Ile Pro Phe Ile Arg Glu Ala  
Page 49

61835-1.ST25.txt

100

105

110

Glu Arg Leu Arg Leu Lys His Met Ala Asp Tyr Pro Asp Tyr Lys Tyr  
 115 120 125

Arg Pro Arg Lys Lys Val Lys Ser Gly Asn Ala Asn Ser Ser Ser Ser  
 130 135 140

Ala Ala Ala Ser Ser Lys Pro Gly Glu Lys Gly Asp Lys Val Gly Gly  
 145 150 155 160

Ser Gly Gly Gly Gly His Gly Gly Gly Gly Gly Gly Gly Ser Ser Asn  
 165 170 175

Ala Gly Gly Gly Gly Gly Gly Ala Ser Gly Gly Gly Ala Asn Ser Lys  
 180 185 190

Pro Ala Gln Lys Lys Ser Cys Gly Ser Lys Val Ala Gly Gly Ala Gly  
 195 200 205

Gly Gly Val Ser Lys Pro His Ala Lys Leu Ile Leu Ala Gly Gly Gly  
 210 215 220

Gly Gly Gly Lys Ala Ala Ala Ala Ala Ala Ser Phe Ala Ala Glu  
 225 230 235 240

Gln Ala Gly Ala Ala Ala Leu Leu Pro Leu Gly Ala Ala Ala Asp His  
 245 250 255

His Ser Leu Tyr Lys Ala Arg Thr Pro Ser Ala Ser Ala Ser Ala Ser  
 260 265 270

Ser Ala Ala Ser Ala Ser Ala Ala Leu Ala Ala Pro Gly Lys His Leu  
 275 280 285

Ala Glu Lys Lys Val Lys Arg Val Tyr Leu Phe Gly Gly Leu Gly Thr  
 290 295 300

Ser Ser Ser Pro Val Gly Gly Val Gly Ala Gly Ala Asp Pro Ser Asp  
 305 310 315 320

Pro Leu Gly Leu Tyr Glu Glu Glu Gly Ala Gly Cys Ser Pro Asp Ala  
 325 330 335

Pro Ser Leu Ser Gly Arg Ser Ser Ala Ala Ser Ser Pro Ala Ala Gly  
 340 345 350

Arg Ser Pro Ala Asp His Arg Gly Tyr Ala Ser Leu Arg Ala Ala Ser  
 Page 50

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355

360

365

Pro Ala Pro Ser Ser Ala Pro Ser His Ala Ser Ser Ser Ala Ser Ser  
 370 375 380

His Ser Ser Ser Ser Ser Ser Ser Gly Ser Ser Ser Ser Asp Asp Glu  
 385 390 395 400

Phe Glu Asp Asp Leu Leu Asp Leu Asn Pro Ser Ser Asn Phe Glu Ser  
 405 410 415

Met Ser Leu Gly Ser Phe Ser Ser Ser Ser Ala Leu Asp Arg Asp Leu  
 420 425 430

Asp Phe Asn Phe Glu Pro Gly Ser Gly Ser His Phe Glu Phe Pro Asp  
 435 440 445

Tyr Cys Thr Pro Glu Val Ser Glu Met Ile Ser Gly Asp Trp Leu Glu  
 450 455 460

Ser Ser Ile Ser Asn Leu Val Phe Thr Tyr  
 465 470

<210> 45  
 <211> 1334  
 <212> DNA  
 <213> homo sapiens

<220>  
 <221> CDS  
 <222> (14)..(601)

<400> 45  
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 Met Gly Ser Gln Ser Ser Lys Ala Pro Arg Gly Asp  
 1 5 10  
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 Val Thr Ala Glu Glu Ala Ala Gly Ala Ser Pro Ala Lys Ala Asn Gly  
 15 20 25  
 cag gag aat ggc cac gtg aaa agc aat gga gac tta tcc ccc aag ggt 145  
 Gln Glu Asn Gly His Val Lys Ser Asn Gly Asp Leu Ser Pro Lys Gly  
 30 35 40  
 gaa ggg gag tcg ccc cct gtg aac gga aca gat gag gca gcc ggg gcc 193  
 Glu Gly Glu Ser Pro Pro Val Asn Gly Thr Asp Glu Ala Ala Gly Ala  
 45 50 55 60  
 act ggc gat gcc atc gag cca gca ccc cct agc cag ggt gct gag gcc 241  
 Thr Gly Asp Ala Ile Glu Pro Ala Pro Pro Ser Gln Gly Ala Glu Ala  
 65 70 75  
 aag ggg gag gtc ccc ccc aag gag acc ccc aag aag aag aag aaa ttc 289  
 Lys Gly Glu Val Pro Pro Lys Glu Thr Pro Lys Lys Lys Lys Lys Phe  
 Page 51

61835-1.ST25.txt

80	85	90	
tct ttc aag aag cct ttc aaa ttg agc ggc ctg tcc ttc aag aga aat			337
Ser Phe Lys Lys Pro Phe Lys Leu Ser Gly Leu Ser Phe Lys Arg Asn			
95	100	105	
cgg aag gag ggt ggg ggt gat tct tct gcc tcc tca ccc aca gag gaa			385
Arg Lys Glu Gly Gly Gly Asp Ser Ser Ala Ser Ser Pro Thr Glu Glu			
110	115	120	
gag cag gag cag ggg gag atc ggt gcc tgc agc gac gag ggc act gct			433
Glu Gln Glu Gln Gly Glu Ile Gly Ala Cys Ser Asp Glu Gly Thr Ala			
125	130	135	140
cag gaa ggg aag gcc gca gcc acc cct gag agc cag gaa ccc cag gcc			481
Gln Glu Gly Lys Ala Ala Ala Thr Pro Glu Ser Gln Glu Pro Gln Ala			
145	150	155	
aag ggg gca gag gct agt gca gcc tca gaa gaa gag gca ggg ccc cag			529
Lys Gly Ala Glu Ala Ser Ala Ala Ser Glu Glu Glu Ala Gly Pro Gln			
160	165	170	
gct aca gag cca tcc act ccc tcg ggg ccg gag agt ggc cct aca cca			577
Ala Thr Glu Pro Ser Thr Pro Ser Gly Pro Glu Ser Gly Pro Thr Pro			
175	180	185	
gcc agc gct gag cag aat gag tag ctaggtaggg gcaggtgggt gatctctaag			631
Ala Ser Ala Glu Gln Asn Glu			
190	195		
ctgcaaaaac tgtgctgtcc ttgtgaggtc actgcctgga cctgggtgccc tggctgcctt			691
cctgtgccca gaaaggaagg ggctattgcc tcctccacag cacgttccct ttctcctct			751
ccctcctgtg gattctccca tcagccatct gggtctctc ttaaggccag ttgaagatgg			811
tccottacag cttcccaagt taggttagtg atgtgaaatg ctctgtccc tggccctacc			871
tccttccctg tccccacccc tgcataaggc agttgttggg tttcttcccc aattcttttc			931
caagtaggtt ttgtttaccc tactcccca atccctgagc cagaagtggg gtgcttatac			991
tccaaaacct tgagtgtcca gccttccct gttgttttta gtctcttgtg ctgtgcctag			1051
tggcacctgg gctggggagg aactgcccc gtctaggttt ttataaatgt cttactcaag			1111
ttcaaacctc cagcctgtga atcaactgtg tctctttttt gacttggtaa gcaagtatta			1171
ggctttgggg tggggggagg tctgtaaatgt gaaacaactt cttgtctttt tttctccac			1231
tgttgtaaat aacttttaat ggccaaaccc cagatttgta cttttttttt ttttctaact			1291
gctaaaacca ttctcttcca cctgggtttta ctgtaacatt tgg			1334

<210> 46  
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 <213> homo sapiens

<400> 46

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Glu Ala Ala Gly Ala Ser Pro Ala Lys Ala Asn Gly Gln Glu Asn Gly  
 20 25 30

His Val Lys Ser Asn Gly Asp Leu Ser Pro Lys Gly Glu Gly Glu Ser  
 35 40 45

Pro Pro Val Asn Gly Thr Asp Glu Ala Ala Gly Ala Thr Gly Asp Ala  
 50 55 60

Ile Glu Pro Ala Pro Pro Ser Gln Gly Ala Glu Ala Lys Gly Glu Val  
 65 70 75 80

Pro Pro Lys Glu Thr Pro Lys Lys Lys Lys Lys Phe Ser Phe Lys Lys  
 85 90 95

Pro Phe Lys Leu Ser Gly Leu Ser Phe Lys Arg Asn Arg Lys Glu Gly  
 100 105 110

Gly Gly Asp Ser Ser Ala Ser Ser Pro Thr Glu Glu Glu Gln Glu Gln  
 115 120 125

Gly Glu Ile Gly Ala Cys Ser Asp Glu Gly Thr Ala Gln Glu Gly Lys  
 130 135 140

Ala Ala Ala Thr Pro Glu Ser Gln Glu Pro Gln Ala Lys Gly Ala Glu  
 145 150 155 160

Ala Ser Ala Ala Ser Glu Glu Glu Ala Gly Pro Gln Ala Thr Glu Pro  
 165 170 175

Ser Thr Pro Ser Gly Pro Glu Ser Gly Pro Thr Pro Ala Ser Ala Glu  
 180 185 190

Gln Asn Glu  
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 <222> (49)..(456)

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57

## 61835-1.ST25.txt

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Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser Lys Gly Phe
   5                               10                               15

gat gaa tac atg aag gag cta gga gtg gga ata gct ttg cga aaa atg      153
Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu Arg Lys Met
  20                               25                               30                               35

ggc gca atg gcc aag cca gat tgt atc atc act tgt gat ggt aaa aac      201
Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly Lys Asn
                     40                               45                               50

ctc acc ata aaa act gag agc act ttg aaa aca aca cag ttt tct tgt      249
Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe Ser Cys
                     55                               60                               65

acc ctg gga gag aag ttt gaa gaa acc aca gct gat ggc aga aaa act      297
Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly Arg Lys Thr
                     70                               75                               80

cag act gtc tgc aac ttt aca gat ggt gca ttg gtt cag cat cag gag      345
Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln His Gln Glu
                     85                               90                               95

tgg gat ggg aag gaa agc aca ata aca aga aaa ttg aaa gat ggg aaa      393
Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys Asp Gly Lys
 100                               105                               110                               115

tta gtg gtg gag tgt gtc atg aac aat gtc acc tgt act cgg atc tat      441
Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr Arg Ile Tyr
                     120                               125                               130

gaa aaa gta gaa taa aaattccatc atcactttgg acaggagtta attaagagaa      496
Glu Lys Val Glu
                     135

tgaccaagct cagttcaatg agcaaatctc catactgttt ctttcttttt tttttcatta      556

ctgtgtttcaa ttatctttat cataaacatt ttacatgcag ctattttcaaa gtgtgtttgga      616

ttaattagga tcatcccttt ggtaataaaa taaatgtgtt tgtgct      662

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<210> 48  
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 <213> homo sapiens

<400> 48

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Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
1                               5                               10                               15

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Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
20                               25                               30

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Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35                               40                               45

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Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
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```

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50

55

60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly  
65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
85 90 95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
100 105 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr  
115 120 125

Arg Ile Tyr Glu Lys Val Glu  
130 135

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cagcagcggc agcggcagc atg tcg gcc ggc gga gcg tca gtc ccg ccg ccc 112  
Met Ser Ala Gly Gly Ala Ser Val Pro Pro Pro  
1 5 10  
ccg aac ccc gcc gtg tcc ttc ccg ccg ccc cgg gtc acc ctg ccc gcc 160  
Pro Asn Pro Ala Val Ser Phe Pro Pro Pro Arg Val Thr Leu Pro Ala  
15 20 25  
ggc ccc gac atc ctg cgg acc tac tcg ggc gcc ttc gtc tgc ctg gag 208  
Gly Pro Asp Ile Leu Arg Thr Tyr Ser Gly Ala Phe Val Cys Leu Glu  
30 35 40  
att ctg ttc ggg ggt ctt gtc tgg att ttg gtt gcc tcc tcc aat gtt 256  
Ile Leu Phe Gly Gly Leu Val Trp Ile Leu Val Ala Ser Ser Asn Val  
45 50 55  
cct cta cct cta cta caa gga tgg gtc atg ttt gtg tcc gtg aca gcg 304  
Pro Leu Pro Leu Leu Gln Gly Trp Val Met Phe Val Ser Val Thr Ala  
60 65 70 75  
ttt ttc ttt tcg ctc ctc ttt ctg ggc atg ttc ctc tct ggc atg gtg 352  
Phe Phe Phe Ser Leu Leu Phe Leu Gly Met Phe Leu Ser Gly Met Val  
80 85 90  
gct caa att gat gct aac tgg aac ttc ctg gat ttt gcc tac cat ttt 400  
Ala Gln Ile Asp Ala Asn Trp Asn Phe Leu Asp Phe Ala Tyr His Phe  
95 100 105

61835-1.ST25.txt

aca gta ttt gtc ttc tat ttt gga gcc ttt tta ttg gaa gca gca gcc	448
Thr Val Phe Val Phe Tyr Phe Gly Ala Phe Leu Leu Glu Ala Ala Ala	
110 115 120	
aca tcc ctg cat gat ttg cat tgc aat aca acc ata acc ggg cag cca	496
Thr Ser Leu His Asp Leu His Cys Asn Thr Thr Ile Thr Gly Gln Pro	
125 130 135	
ctc ctg agt gat aac cag tat aac ata aac gta gca gcc tca att ttt	544
Leu Leu Ser Asp Asn Gln Tyr Asn Ile Asn Val Ala Ala Ser Ile Phe	
140 145 150 155	
gcc ttt atg acg aca gct tgt tat ggt tgc agt ttg ggt ctg gct tta	592
Ala Phe Met Thr Thr Ala Cys Tyr Gly Cys Ser Leu Gly Leu Ala Leu	
160 165 170	
cga aga tgg cga ccg taa cactccttag aaactggcag tcgtatgtta	640
Arg Arg Trp Arg Pro	
175	
gtttcacttg tctactttat atgtctgac aatttggata ccattttgtc cagatgcaaa	700
aacattccaa aagtaatgtg tttagtagag agagactcta agctcaagtt ctggtttatt	760
tcatggatgg aatgttaatt ttattatgat attaaagaaa tggcctttta ttttacatct	820
ctcccccttt tccctttccc cttttatttt cctccttttc tttctgaaag tttcctttta	880
tgtccataaa atacaaatat attgttcata aaaaattagt atcccttttg tttggttgct	940
gagtcacctg aaccttaatt ttaattggta attacagccc ctaaaaaaaa cacatttcaa	1000
ataggcttcc cactaaactc tatatttttag tgtaaaccag gaattggcac acttttttta	1060
gaatgggcca gatggtaaat atttatgctt cacgggtocat acagtctctg tcacaactat	1120
tcagttctgc tagtatagcg tgaaagcagc tatacacaat acagaaatga atgagtgtgg	1180
ttatgttcta ataaaactta tttataaaaa caaggggagg ctgggttttag cctgtgggcc	1240
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aaatataaag ttgtagattc ttatgtgttt ttgtattagc ccagacatct gtaatgtttt	1840
tgcactgggtg acagacaaaa tctgttttaa aatcatatcc agcacaaaaa ctatttctgg	1900
ctgaatagca cagaaaagta ttttaacctc cctgtagaga tcctcgtcat ggaaagggtgc	1960



## 61835-1.ST25.txt

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caaaactgttt tgaatggaag gacaagtaag agtgaggcca cagttcccac cacacgaggg 2020
cttttgtatt gttctacttt ttcagccctt tactttctgg ctgaagcatc cccttgaggt 2080
gccatgtata agttgggcta ttagagttca tggaacatag aacaaccatg aatgagtggc 2140
atgatccgtg cttaatgata aagtgttact tatctaataa tcctctagaa agaaccctgt 2200
tagatcttgg tttgtgataa aaatataaag acagaagaca tgaggaaaaa caaaagggtt 2260
gaggaaatca ggcataatgac ttataactta acatcagatc ttttctataa taccctacta 2320
ctttgggttt cctagctcca taccacacac ctaaaccctgt attatgaatt acatattaca 2380
aagtcataaa tgtgccatat ggatatacag tacattctag ttggaatcgt ttactctgct 2440
agaatttagg tgtgagatatt tttgtttccc aggtatagca ggcttatgtt tgggtggcatt 2500
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tacaaaccaa gcctaagaca catctgtgaa tacttagatt tgtagcttaa tcacattcta 2620
gacttgtgag ttgaatgaca aagcagttga acaaaaatta tggcatttaa gaatttaaca 2680
tgtcttagct gtaaaaatga gaaagtgttg gttgggttta aaatctggta actccatgat 2740
gaaaagaaat ttattttata cgtgttatgt ctctaataaa gtattcattt gataaaaaaa 2800
aaaaaaa 2808

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<400> 50

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20 25 30

Arg Thr Tyr Ser Gly Ala Phe Val Cys Leu Glu Ile Leu Phe Gly Gly  
35 40 45

Leu Val Trp Ile Leu Val Ala Ser Ser Asn Val Pro Leu Pro Leu Leu  
50 55 60

Gln Gly Trp Val Met Phe Val Ser Val Thr Ala Phe Phe Phe Ser Leu  
65 70 75 80

Leu Phe Leu Gly Met Phe Leu Ser Gly Met Val Ala Gln Ile Asp Ala  
85 90 95

Asn Trp Asn Phe Leu Asp Phe Ala Tyr His Phe Thr Val Phe Val Phe  
100 105 110

## 61835-1.ST25.txt

Tyr Phe Gly Ala Phe Leu Leu Glu Ala Ala Ala Thr Ser Leu His Asp  
 115 120 125

Leu His Cys Asn Thr Thr Ile Thr Gly Gln Pro Leu Leu Ser Asp Asn  
 130 135 140

Gln Tyr Asn Ile Asn Val Ala Ala Ser Ile Phe Ala Phe Met Thr Thr  
 145 150 155 160

Ala Cys Tyr Gly Cys Ser Leu Gly Leu Ala Leu Arg Arg Trp Arg Pro  
 165 170 175

<210> 51  
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 gaaccaagggg caactaaagc cgtcaggttc tgaacagctg gtagatgggc tggcttactg 180  
 aaggac atg att cag act gtc ccg gac cca gca gct cat atc aag gaa 228  
 Met Ile Gln Thr Val Pro Asp Pro Ala Ala His Ile Lys Glu  
 1 5 10  
 gcc tta tca gtt gtg agt gag gac cag tcg ttg ttt gag tgt gcc tac 276  
 Ala Leu Ser Val Val Ser Glu Asp Gln Ser Leu Phe Glu Cys Ala Tyr  
 15 20 25 30  
 gga acg cca cac ctg gct aag aca gag atg acc gcg tcc tcc tcc agc 324  
 Gly Thr Pro His Leu Ala Lys Thr Glu Met Thr Ala Ser Ser Ser Ser  
 35 40 45  
 gac tat gga cag act tcc aag atg agc cca cgc gtc cct cag cag gat 372  
 Asp Tyr Gly Gln Thr Ser Lys Met Ser Pro Arg Val Pro Gln Gln Asp  
 50 55 60  
 tgg ctg tct caa ccc cca gcc agg gtc acc atc aaa atg gaa tgt aac 420  
 Trp Leu Ser Gln Pro Pro Ala Arg Val Thr Ile Lys Met Glu Cys Asn  
 65 70 75  
 cct agc cag gtg aat ggc tca agg aac tct cct gat gaa tgc agt gtg 468  
 Pro Ser Gln Val Asn Gly Ser Arg Asn Ser Pro Asp Glu Cys Ser Val  
 80 85 90  
 gcc aaa ggc ggg aag atg gtg ggc agc cca gac acc gtt ggg atg aac 516  
 Ala Lys Gly Gly Lys Met Val Gly Ser Pro Asp Thr Val Gly Met Asn  
 95 100 105 110  
 tac ggc agc tac atg gag gag aag cac atg cca ccc cca aac atg acc 564

## 61835-1.ST25.txt

Tyr	Gly	Ser	Tyr	Met	Glu	Glu	Lys	His	Met	Pro	Pro	Pro	Asn	Met	Thr		
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Thr	Asn	Glu	Arg	Arg	Val	Ile	Val	Pro	Ala	Asp	Pro	Thr	Leu	Trp	Ser		
			130					135					140				
aca	gac	cat	gtg	cgg	cag	tgg	ctg	gag	tgg	gcg	gtg	aaa	gaa	tat	ggc		660
Thr	Asp	His	Val	Arg	Gln	Trp	Leu	Glu	Trp	Ala	Val	Lys	Glu	Tyr	Gly		
			145				150					155					
ctt	cca	gac	gtc	aac	atc	ttg	tta	ttc	cag	aac	atc	gat	ggg	aag	gaa		708
Leu	Pro	Asp	Val	Asn	Ile	Leu	Leu	Phe	Gln	Asn	Ile	Asp	Gly	Lys	Glu		
	160					165					170						
ctg	tgc	aag	atg	acc	aag	gac	gac	ttc	cag	agg	ctc	acc	ccc	agc	tac		756
Leu	Cys	Lys	Met	Thr	Lys	Asp	Asp	Phe	Gln	Arg	Leu	Thr	Pro	Ser	Tyr		
	175				180				185						190		
aac	gcc	gac	atc	ctt	ctc	tca	cat	ctc	cac	tac	ctc	aga	gag	act	cct		804
Asn	Ala	Asp	Ile	Leu	Leu	Ser	His	Leu	His	Tyr	Leu	Arg	Glu	Thr	Pro		
				195				200						205			
ctt	cca	cat	ttg	act	tca	gat	gat	gtt	gat	aaa	gcc	tta	caa	aac	tct		852
Leu	Pro	His	Leu	Thr	Ser	Asp	Asp	Val	Asp	Lys	Ala	Leu	Gln	Asn	Ser		
			210					215					220				
cca	cgg	tta	atg	cat	gct	aga	aac	aca	gat	tta	cca	tat	gag	ccc	ccc		900
Pro	Arg	Leu	Met	His	Ala	Arg	Asn	Thr	Asp	Leu	Pro	Tyr	Glu	Pro	Pro		
		225					230					235					
agg	aga	tca	gcc	tgg	acc	ggt	cac	ggc	cac	ccc	acg	ccc	cag	tcg	aaa		948
Arg	Arg	Ser	Ala	Trp	Thr	Gly	His	Gly	His	Pro	Thr	Pro	Gln	Ser	Lys		
	240					245				250							
gct	gct	caa	cca	tct	cct	tcc	aca	gtg	ccc	aaa	act	gaa	gac	cag	cgt		996
Ala	Ala	Gln	Pro	Ser	Pro	Ser	Thr	Val	Pro	Lys	Thr	Glu	Asp	Gln	Arg		
	255				260				265						270		
cct	cag	tta	gat	cct	tat	cag	att	ctt	gga	cca	aca	agt	agc	cgc	ctt		1044
Pro	Gln	Leu	Asp	Pro	Tyr	Gln	Ile	Leu	Gly	Pro	Thr	Ser	Ser	Arg	Leu		
				275					280					285			
gca	aat	cca	ggc	agt	ggc	cag	atc	cag	ctt	tgg	cag	ttc	ctc	ctg	gag		1092
Ala	Asn	Pro	Gly	Ser	Gly	Gln	Ile	Gln	Leu	Trp	Gln	Phe	Leu	Leu	Glu		
			290					295					300				
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Leu	Leu	Ser	Asp	Ser	Ser	Asn	Ser	Ser	Cys	Ile	Thr	Trp	Glu	Gly	Thr		
		305					310					315					
aac	ggg	gag	ttc	aag	atg	acg	gat	ccc	gac	gag	gtg	gcc	cgg	cgc	tgg		1188
Asn	Gly	Glu	Phe	Lys	Met	Thr	Asp	Pro	Asp	Glu	Val	Ala	Arg	Arg	Trp		
	320					325					330						
gga	gag	cgg	aag	agc	aaa	ccc	aac	atg	aac	tac	gat	aag	ctc	agc	cgc		1236
Gly	Glu	Arg	Lys	Ser	Lys	Pro	Asn	Met	Asn	Tyr	Asp	Lys	Leu	Ser	Arg		
	335				340					345					350		
gcc	ctc	cgt	tac	tac	tat	gac	aag	aac	atc	atg	acc	aag	gtc	cat	ggg		1284
Ala	Leu	Arg	Tyr	Tyr	Tyr	Asp	Lys	Asn	Ile	Met	Thr	Lys	Val	His	Gly		
				355					360					365			
aag	cgc	tac	gcc	tac	aag	ttc	gac	ttc	cac	ggg	atc	gcc	cag	gcc	ctc		1332

## 61835-1.ST25.txt

Lys Arg Tyr Ala Tyr Lys Phe Asp Phe His Gly Ile Ala Gln Ala Leu  
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 385 390 395  
 ccg tac atg ggc tcc tat cac gcc cac cca cag aag atg aac ttt gtg 1428  
 Pro Tyr Met Gly Ser Tyr His Ala His Pro Gln Lys Met Asn Phe Val  
 400 405 410  
 gcg ccc cac cct cca gcc ctc ccc gtg aca tct tcc agt ttt ttt gct 1476  
 Ala Pro His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser Phe Phe Ala  
 415 420 425 430  
 gcc cca aac cca tac tgg aat tca cca act ggg ggt ata tac ccc aac 1524  
 Ala Pro Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile Tyr Pro Asn  
 435 440 445  
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 Thr Arg Leu Pro Thr Ser His Met Pro Ser His Leu Gly Thr Tyr Tyr  
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 tatgcattta tacactacga gttgatctcg gccagccaaa gacacacgac aaaagagaca 2825

## 61835-1.ST25.txt

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 attagttctt agaatgcaga atgtatgtaa taaaataagc ttggcctagc atggcaaadc 2945  
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 <211> 462  
 <212> PRT  
 <213> Homo sapiens

<400> 52

Met Ile Gln Thr Val Pro Asp Pro Ala Ala His Ile Lys Glu Ala Leu  
 1 5 10 15

Ser Val Val Ser Glu Asp Gln Ser Leu Phe Glu Cys Ala Tyr Gly Thr  
 20 25 30

Pro His Leu Ala Lys Thr Glu Met Thr Ala Ser Ser Ser Ser Asp Tyr  
 35 40 45

Gly Gln Thr Ser Lys Met Ser Pro Arg Val Pro Gln Gln Asp Trp Leu  
 50 55 60

Ser Gln Pro Pro Ala Arg Val Thr Ile Lys Met Glu Cys Asn Pro Ser  
 65 70 75 80

Gln Val Asn Gly Ser Arg Asn Ser Pro Asp Glu Cys Ser Val Ala Lys  
 85 90 95

Gly Gly Lys Met Val Gly Ser Pro Asp Thr Val Gly Met Asn Tyr Gly  
 100 105 110

Ser Tyr Met Glu Glu Lys His Met Pro Pro Pro Asn Met Thr Thr Asn  
 115 120 125

Glu Arg Arg Val Ile Val Pro Ala Asp Pro Thr Leu Trp Ser Thr Asp  
 130 135 140

His Val Arg Gln Trp Leu Glu Trp Ala Val Lys Glu Tyr Gly Leu Pro  
 145 150 155 160

Asp Val Asn Ile Leu Leu Phe Gln Asn Ile Asp Gly Lys Glu Leu Cys  
 165 170 175

Lys Met Thr Lys Asp Asp Phe Gln Arg Leu Thr Pro Ser Tyr Asn Ala

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180

185

190

Asp Ile Leu Leu Ser His Leu His Tyr Leu Arg Glu Thr Pro Leu Pro  
 195 200 205

His Leu Thr Ser Asp Asp Val Asp Lys Ala Leu Gln Asn Ser Pro Arg  
 210 215 220

Leu Met His Ala Arg Asn Thr Asp Leu Pro Tyr Glu Pro Pro Arg Arg  
 225 230 235 240

Ser Ala Trp Thr Gly His Gly His Pro Thr Pro Gln Ser Lys Ala Ala  
 245 250 255

Gln Pro Ser Pro Ser Thr Val Pro Lys Thr Glu Asp Gln Arg Pro Gln  
 260 265 270

Leu Asp Pro Tyr Gln Ile Leu Gly Pro Thr Ser Ser Arg Leu Ala Asn  
 275 280 285

Pro Gly Ser Gly Gln Ile Gln Leu Trp Gln Phe Leu Leu Glu Leu Leu  
 290 295 300

Ser Asp Ser Ser Asn Ser Ser Cys Ile Thr Trp Glu Gly Thr Asn Gly  
 305 310 315 320

Glu Phe Lys Met Thr Asp Pro Asp Glu Val Ala Arg Arg Trp Gly Glu  
 325 330 335

Arg Lys Ser Lys Pro Asn Met Asn Tyr Asp Lys Leu Ser Arg Ala Leu  
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Arg Tyr Tyr Tyr Asp Lys Asn Ile Met Thr Lys Val His Gly Lys Arg  
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Tyr Ala Tyr Lys Phe Asp Phe His Gly Ile Ala Gln Ala Leu Gln Pro  
 370 375 380

His Pro Pro Glu Ser Ser Leu Tyr Lys Tyr Pro Ser Asp Leu Pro Tyr  
 385 390 395 400

Met Gly Ser Tyr His Ala His Pro Gln Lys Met Asn Phe Val Ala Pro  
 405 410 415

His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser Phe Phe Ala Ala Pro  
 420 425 430

Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile Tyr Pro Asn Thr Arg  
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435

440

445

Leu	Pro	Thr	Ser	His	Met	Pro	Ser	His	Leu	Gly	Thr	Tyr	Tyr
450						455					460		